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HENRY S. DYER

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JOHN W. BLYTH

Other articles by
Richard K. Morton, Edward Gross, Kevin P. Bunnell, Raymond S. Moore, David D. Henry, Constantine G. Krypton, Frank M. Snowden, Jr., William B. Storm and Richard W. Gable, M. M. Chambers

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RAYMOND F. HOWES, *Editor*

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The Educational Record

April 1960

On Making Testers of Teachers

HENRY S. DYER

DURING my recent visit to Indonesia, I found a little group of people in Bandung who had organized an Institute of Educational Research, primarily concerned with testing. Among the projects that this group had in hand was one in which they had prepared objective achievement tests for use by the professors of Padjadjaran University in their various courses—tests in history, mathematics, economics, biology, and the like. Having given the tests, the research group had accumulated vast amounts of statistical information which they felt proved that the tests were pretty good. When I got to Bandung, however, I found the testers in the dumps because they had also accumulated a good deal of ill will among the professors who did not understand the maze of statistics and who felt that the tests themselves were far from adequate as measures of what they were trying to do with their students.

I bring in this reference to Bandung, not, I hope, because I have become that new variant of bore known as a "place dropper," but because it so aptly illustrates all the wrong things a tester can do in devising a good testing program. They had omitted the first and most important ingredient in concocting their tests: they had failed to get the confidence and participation of the professors. And one does not have to go halfway around the world to find instances of this kind of oversight. It happens every day right here at home.

This little group of Indonesian psychologists had started out on the wrong foot when they wrote the test questions themselves without consulting the professors whose students were to be tested. No professor of history or economics or biology is going to believe that a lowly psychologist knows more than he does about how to put together the right kind of test for *his* students.

The testers' second big mistake was to try to justify their tests by presenting the professors with a lot of statistical mumbo jumbo that the professors could not fathom. No professor likes to be puzzled, and, when the puzzlement surrounds something he already supposes is spurious, he is likely to think that the avalanche of statistics is only a nefarious device to bury him in confusion.

The major point I wish to make in this talk is that, in my opinion, the most effective testing and test utilization in a college becomes possible only when there is active cooperation and participation

by the teaching faculty in the three main parts of the process, namely in test-building, test selection, and test use. This, of course, is the main theme of the book, *College Testing: A Guide to Practices and Programs.*[1] I would like to suggest, though, that faculty participation in testing is not likely to come about simply by making the book required reading for college teachers. Somewhere in the picture there is always going to have to be a professional tester with the following qualities: (1) a solid command of the technical aspects of testing; (2) a deep conviction that he must work *with* faculty members, not for or against them; (3) a flair for clarifying the techniques involved in testing; (4) a taste for "prima donnas" and a mastery of the art of getting them organized and in motion; and (5) patience.

In carrying out his function of getting and keeping the faculty involved in the testing business, the professional tester needs to keep four basic considerations in mind.

First, he needs to remember that college teachers are themselves testers. They do not ordinarily think of themselves as such, but the fact is that most teachers of undergraduates spend a significant proportion of their time in preparing and grading tests. In this part of his job the college teacher is a man of experience, and he tends to believe that his experience has taught him a good deal about tests and testing—as in most cases it has. The job of the professional tester is to build on this experience.

At the Educational Testing Service this building on the testing experience of the teacher is a basic principle of operation in our test development work. I do not believe there is a single subject-matter test among the thousands we prepare that has not been shaped up by a committee of teachers working under the guidance of our own staff members. I have had some direct experience of this sort myself, and invariably I have been impressed by the ability and imagination of college teachers to dream up new and interesting and effective types of test questions for getting at subtleties of thought and understanding in students. In consequence, when people throw rocks at our tests—as sometimes happens—they are throwing rocks more at the teachers than at the professional testers.

Our typical procedure for building any test consists of six steps. First, we gather together a representative group of teachers who are well informed on the field of the test and who are familiar with the ways students' minds work. Second, we pick the teachers' brains to find out what the test should cover and what qualities of the student's mind it should reveal. Third, we show the teachers, from our own experience, some of the kinds of questions suited to the field and to the objectives they have in mind. Fourth, we put them to work thinking up new questions, either along the same lines or along new lines. Fifth, we try out the test on some flesh-and-blood students to see how the individual questions work. Sixth, we bring back the results of this tryout to the test committee and ask it to decide what questions should go into the finished form.

This is a cumbersome and time-consuming process, but it is, we believe, the only way a really effective test can be brought into being. Few colleges, probably, could regularly involve the teaching staff in such an extensive enterprise for putting a single test together. On the other hand, within a single institution where the faculty is always on tap and where the goals of instruction are likely to be already agreed upon, the same six steps, possibly in a more abbreviated form, can be carried out more expeditiously.

[1] Prepared by the Committee on Measurement and Evaluation of the American Council on Education (Washington: The Council, 1958).

This kind of test-building activity within the college can be highly rewarding, not just because it produces better tests, but also because in the process the teachers involved get a much sharper idea of just what it is they are trying to teach and a better understanding of how to go about their regular job.

The second basic consideration for the professional tester is that college teachers are usually suspicious of objective tests until after they have worked on them themselves. Generally speaking, the college teacher is wedded to the notion that the only kind of test that can possibly get at the qualities of mind he is after is the essay test and that the objective test can at best be only a poor substitute, to be used only when the pressure of numbers is so great as to make the grading of essay tests impossible. He has a large measure of truth on his side, of course, and the professional tester who, in the arrogance of his own enthusiasms, asserts the claim that there is nothing an essay test can do which an objective test cannot do better is certain to find himself out on a very lonely limb soon to be cut off by the hacksaws of influential professors who do not agree with him.

A better strategy (and one that follows the truth more closely in any case) is to admit outright that essay tests do have an important place in any college testing program because they do in fact get at some important qualities of mind that the objective test cannot touch. Once this is conceded, it is much easier to get a hearing for the idea that a really well-made objective test can do things that are generally not associated with it, that it is capable of testing for a lot more than mere "atomized facts," and that it can indeed get at many subtleties of reasoning in the application of facts to problems in a surer way than the essay test itself.

I suppose the most important single fact about essay tests that ought to be burned into the minds of faculty members is that it takes about twenty carefully graded essay tests to get a reliable indication of a student's ability to organize his ideas and express them. As far as I know, every study that has ever been made has shown that a single one-hour essay test provides a highly unreliable sample of a student's performance. This does not furnish a sound reason for avoiding essay testing altogether, though it certainly does suggest that, if a student's final grade in a course depends too heavily on a single final essay examination, the grade is more than likely to be grossly unfair. By the same token, it also suggests what many college teachers would applaud (if they did not have to grade the blasted things), namely that many good essay tests spaced throughout a course probably provide the most effective way of getting a solid measure of all aspects of a student's achievement. I personally believe very strongly that the retreat from essay tests in evaluating student achievement is something to be deplored, for all the reasons that any thoughtful teacher can readily name.

The third consideration for the professional tester, if he is to get effective utilization of test results in the placement and counseling of students, is that those members of the faculty who are involved in this process must be brought to understand something of such technical matters as score scales, norms, test reliability, and test validity. And they must see the direct bearing of these technical matters on the proper interpretation of scores. There is, admittedly, a large amount of abstruse and complicated theory underlying these technical aspects of testing. Nevertheless, it *is* possible, if the purposes of testing in the local situation are crystal clear, to reduce most of the theory to simple, understandable terms related to the concrete problems that exist in a given institution.

Let me illustrate what I have in mind by an example. Let us take the concept of test reliability. From a theoretical point of view this is not a simple concept. It is one that the professional tester can befog with all kinds of mathematical complexity with no trouble at all. But it is an important concept for anyone who is trying to extract meaning from a test score. How can this concept of reliability be brought home in a very practical way to the user of a test? One way to do it is this: You simply make up a distribution of the scores obtained by your students on a particular test, say, the verbal section of the College Entrance Examination Board's Scholastic Aptitude Test. You identify those who fall in the top quarter of the distribution, those who fall in the second quarter, and so on. Then, knowing the reliability coefficient of the test, it is possible to show how many students in the top quarter could be expected to drop to the bottom quarter if they were to take the test over again and, conversely, how many students in the bottom quarter would be expected to climb to the top quarter on a retake.

In some colleges where there is a considerable spread of ability in the student body, it can be expected that no student in the top quarter would exchange places with a student in the bottom quarter if the test were to be repeated. In other institutions where the students' SAT–Verbal scores tend to bunch closely, perhaps as many as one-third of the students in the top quarter might exchange places with one-third of the students in the bottom quarter. Either one of these statements dramatizes for the teachers in a particular college the extent to which the scores of a test are likely to fluctuate because of the inherent unreliability in the test itself. And so, without going into a lot of theory, the teachers get a feel for the reliability of the test, which will make them properly wary in interpreting the scores. In my experience, there are many test users who need to develop this kind of wariness; otherwise they tend to have too much confidence in the fixity of test scores and to draw inferences from test data that go miles beyond what is warranted in the circumstances.

The fourth consideration has to do with the selection of published tests for use in the college program. Here again, it seems to me, the faculty itself should be intimately involved. The role of the professional tester should go no further than that of suggesting the three or four most respectable tests designed for a particular purpose—admissions, guidance, placement, or evaluation. It should be the task of the faculty to determine which one of the respectable tests is most nearly suited to its own requirements and its own students. And by this I do not mean that the test committee should simply sit around a table looking at each other and the covers of test booklets and listening to someone expound on the technical merits and defects of each test. What I do mean is that they should examine each test critically, question by question, bringing to bear all of their native common sense and experience. Of each question they should ask themselves: Is this question likely to give a bit of information about the student that could be useful in one way or another? And then they should consider the test as a whole. Granted that some of the individual questions in it may look pretty useless, how do they all add up? Do they give a reasonably *balanced* picture of the student's competence in whatever the test is supposed to be measuring? Is this the *kind* of picture that is going to be helpful in making decisions about the student or in getting him to make decisions about himself? And so on.

If I could have my own way with a faculty, I would make them take every test their students take and take it under

regular testing conditions—or as nearly regular as possible. This is the only sure way to get a genuine idea of what a test is really like and of what it can tell about the inside of a student's mind. If, for instance, a college requires the College Board tests for the admission of its students, I think it would be a great idea to have the entire faculty sweat through those tests themselves every two or three years to get an inkling of what their incoming students have been up against and to get to know more intimately what the tests tell about the candidates. Such an exercise, it seems to me, would make college professors wiser, if not sadder, people.

To sum it all up, I think that the only way in which you can ever hope to have effective testing in a college is to get practically every professor right up to his neck in all phases of the testing business. It might be objected that professors are hired to spend their time teaching, not testing. But this kind of objection, it seems to me, reflects a fundamental misconception of what the role of testing in education should be. Testing should not be regarded as something separate and apart from instruction; it should be regarded as a vital and integral part of every aspect of the educational process. It should be thought of as the means by which the instructor gets to know his students and keeps track of how they are doing, so that his teaching can be aimed more accurately at the target. Tests are tools for keeping the teaching on target.

Teaching—real teaching—is not a matter of talking at students. It is a matter of keeping constantly open a two-way communication channel between the teacher and his students and of making sure that the messages going each way are intelligible. A good test ought to carry a considerable part of the teacher's message to the students in that it should convey what the teacher expects of them, what facts and principles they ought to know and understand, what kinds of thinking they should be learning to do with these facts and principles. By the same token, a good test should carry a large part of the students' messages to the teacher. It should tell him what they know, what habits of thought they have developed and are developing, where they are running into roadblocks, and something of the nature of their struggles to get around these roadblocks.

In short a good test enables the instructor to adjust his mind to his students' minds and enables the students to adjust their minds to his. Teaching can become pretty sterile unless this mutual adjustment is constantly taking place. Testing, as I see it, is the means for making such mutual adjustment possible. So it goes almost without saying that unless the teachers are tied into the testing process in every conceivable way, both the testing and the teaching are likely to turn into a game of blindman's buff in which any learning that takes place is only a series of happy accidents.

Teaching Machines and Human Beings

JOHN W. BLYTH

HUMAN aspirations and ideals are intimately related to human emotions. The emotional attitudes of approval and disapproval in a given culture are usually expressed through certain words. It is often difficult to disentangle the attitudes expressed by those words from their descriptive meaning. Since the industrial revolution there has been a continuing complaint about the debasement and materialization of our civilization caused by the use of machines. The word "machine" has thereby acquired a heavy emotional burden. The same burden is now rapidly piling up on words such as "automation." The phrase "automation of education with teaching machines" thus represents such a summation of horrors for some people that it blocks any intelligent inquiry into the merits of teaching machines.

This accounts, I believe, for the paradox that some reporters, editors, and radio and television commentators, whose very jobs were created by such developments, utilize the most modern automated machinery to disseminate their uncritical emotional reactions against machines. Fortunately the mechanization of the media of communication has not mechanized the minds of all those who have something to communicate. No more will the mechanization of the method of presenting instructional materials mechanize the materials to be presented. In the end the widespread use of teaching machines will not depend on emotional reactions to a word but on their value in helping us to cope with urgent educational problems.

The teaching machine is simply a mechanical private tutor. A number of different designs have already been developed. However, they all have certain common features.

1. A question or problem is presented to the student either by a card or printed sheet seen through a window or from a film projected on a reading screen.

2. Some provision is made for the operator to record his answer. In some machines he indicates his selection from a number of alternative answers presented. In other machines he writes out an answer he has constructed.

3. As soon as his answer has been recorded, a student may obtain an immediate check on its accuracy. Some machines check the answer automatically. Others expose the correct answer for the student to evaluate his own work.

4. The sequence in which the items are presented is usually controlled by the machine.

5. The timing of the questions and answers is usually under the control of the student. Since these machines are designed for individual use, each student may proceed at his own pace.

A teaching machine can, of course, do no more than present a sequence of questions and answers previously prepared by human teachers. Like the printing press it is a mechanical aid for multiplying the effectiveness of skilled teachers. Wherever instructional materials can be satisfactorily programmed for this method of presentation, mechanical tutors can free human tutors for other teaching tasks. This has obvious implications for any country either unable or unwilling to reward its teachers well enough to recruit them in adequate numbers. On this score alone the potentialities of the

teaching machine are worth examining and exploiting as rapidly as possible if they prove their value.

There is another less obvious, but no less important, advantage to be gained in exploiting the teaching machine. The machine makes it possible to provide some of the conditions we have long known are necessary for efficient learning. A savage instructing his son in the use of the bow and arrow knew that the son needed plenty of practice and that he had to see where the arrow went on each shot if he was to make any improvement on the next. The importance of this immediate feedback was formulated years ago by Thorndike as the Law of Effect. According to this law of learning, an action which leads to a satisfactory result tends to be repeated. In terms of the contemporary terminology of Professor B. F. Skinner at Harvard, immediate reinforcement or reward is important in the learning process. As far as the application of this principle is concerned, we do a much better job of teaching rats, pigeons, and football players than we do of teaching mathematicians and physicists. Teaching machines designed for individual use make it possible to provide this immediate reinforcement for every student.

Any improvement in the control of conditions providing more efficient learning should have important consequences. It may be possible for a given instructional unit to be learned more thoroughly and easily in less time. To state the same point in another way, a student should be able to learn more material more easily and more thoroughly in a given unit of time. The further development and rapid exploitation of the teaching machine is one of the most promising approaches to the problem of teaching the increasingly complicated body of modern knowledge to increasing masses of people. The teaching machine offers hope that this may be done without abandoning our democratic ideals of education and without lowering our ambitions to the education of an intellectual elite.

Teaching rats and humans

Full exploitation of the potentialities of the teaching machine will require a great amount of work by many people. The number of research projects related to the teaching machine is rapidly increasing. The kind of research project most likely to produce quantifiable and convincing results is one relatively small in scope and concerned with a limited number of controllable variables. Much more of this is needed. But not all of the important questions can be stated in terms suitable for a tidy laboratory research project. If we look only for problems which can be so formulated, some of the most important issues may be ignored. Furthermore, some attempts to use the teaching machine in regular courses will be helpful in determining some of the research problems likely to prove most valuable.

Laboratory experiments have demonstrated that the use of immediate reinforcement techniques is a very efficient way to train animals to make a discriminative response to selected stimuli. Rats and pigeons can be trained to perform a whole series of such responses in sequence. Their actions then form a complicated "chain" of events.

There are some areas in human learning in which a drill technique has traditionally been employed. The mechanical presentation of the questions and answers has some obvious application wherever it is felt appropriate to use drill methods. It is not so obvious that it has any wider application.

Psychologists do not offer a curriculum of courses in maze-running, bar-pressing, and the like. There is, to the best of my knowledge, no science of maze-running to be taught. The order of right and

left turns in a maze is arbitrary for each maze. The only reason a rat should turn to the right rather than the left at a certain point is that it is that turn which leads to reinforcement. No better reason can be found because there is none.

Students sometimes pass courses in logic and mathematics in the same way. They learn to write down certain words or numbers in answer to questions because those are the answers which produce reinforcement in the form of passing grades. They frequently cannot imagine why the teacher prefers those answers to other equally attractive answers, but they hope to keep the teacher happy by giving the answers they have learned he wants.

A student who gives a certain answer merely because that is the one the teacher reinforces has not learned a subject such as mathematics or logic. I make no claim that knowing mathematics and logic requires some special reasoning faculty or involves some mysterious insight into a special world of numbers and logical entities. But the reason for saying "valid," for example, must be more than the fact that saying "valid" caused the teacher to produce a reward. Reinforcing a response is part of the cause for the student's learning. But if the student has learned only that that response causes reinforcement, he has not learned logic or mathematics. The answers the teacher will reinforce are not selected by arbitrary decision or whim. They are the right answers in the sense that they are required by the rules of the relevant system. To learn mathematics and logic the student must learn to produce answers because they are the right answers. It is a familiar difficulty for the teacher to discriminate right answers given for the right reason from right answers reached by guesswork. Only the former should be reinforced.

Mathematics and logic are two of the most highly organized and integrated subjects to confront our students. They require much more than learning by rote. Thus, logic constitutes a good test for determining the usefulness of teaching machines in developing complex high-level intellectual skills.

Last year with the help of a grant from the Fund for the Advancement of Education, Professor John Jacobson and I started an experiment in teaching logic at Hamilton College. Our experience has convinced us that the most effective teaching aid now available is a program of questions and answers designed for a teaching machine and that the most efficient method of presenting such a program is in a machine using microfilm and designed for individual use.

The use of the programmed materials we developed gained for us a new experience in teaching. We found many advantages and no disadvantages. Among the advantages we noticed the following:

1. We wasted no class time on routine checking or on drill.

2. We wasted no class time on unprepared students. We knew in advance exactly who had done the work on the programs and who had not. We believe that evidence of work on programmed material should become a ticket of admission to class.

3. Examination of student work on the programs enabled us to prepare for a class period with prior knowledge of the points that needed further clarification.

4. In the classroom work we could presuppose a common background of experience with a large number of relevant examples encountered in the programs.

5. We wasted no time trying to locate and correct misconceptions students had mastered through unchecked practice.

6. We could usually count on a working command of basic concepts and principles. Class time could therefore be devoted to further development of the concepts and their application to new areas.

7. Classroom efficiency was increased by at least a third. Instead of a standard three hours a week we met two hours a week. Yet we were able to cover more material more thoroughly than ever before.

8. Individual differences were not entirely removed. But the range was greatly reduced with every student moving closer to mastery. I had at least three students in a section of twenty, who, in my judgment, would have failed the course in the preceding year. They passed with a very safe margin.

9. Many fewer private conferences with individual students were needed. In the conferences that were needed it was possible to diagnose the difficulty very quickly by analyzing the student's answers to the programmed materials. More often than not such conferences led to revisions in the program in the hope of avoiding such troubles for other students.

10. The programs constitute an excellent diagnostic instrument in locating individual and class differences. An analysis of student answers constitutes an equally good diagnostic instrument in locating shortcomings in a program. After testing and revising programs a certain number of times, we should have programs which we know from experience will enable the vast majority of students to master complex materials in a minimum time.

11. There was a great increase in interest and improvement in morale.

12. One student taught himself the first semester's work with little help from us.

13. During the summer of 1959 some of the materials prepared for Hamilton College students were used in a program of advanced studies for gifted junior and senior high school students presented by the Board of Cooperative Services in Oneida County, another project aided by the Fund for the Advancement of Education. Examination results compared favorably with those of college students.

With a new grant from the Fund for the Advancement of Education the experiment at Hamilton College has been extended and enlarged. In addition to the course in logic, the experiment now involves courses in mathematics, psychology, French, and German. It is too early to report results from the expanded project.

Program requirements

Probably every teacher has at some time been baffled because a student could not see a point utterly obvious to the teacher. When this happens, a good teacher knows that he must back up and lead the student step by step until he can see the point for himself. In its simplest terms this indicates what is required for a good program. This combines two ancient techniques in modified form: the Socratic method of teaching by asking questions, and the Cartesian method of analyzing a problem into its smallest parts and proceeding from the simple to the complex.

The kind of analysis needed goes beyond the Cartesian analysis of a problem into its smallest logical parts. This is necessary but not sufficient. In symbolic logic we have some of the tidiest, neatest systems ever developed. In presenting a system we may start with the simplest elements, a few rules of operation, a few axioms and postulates, and then deduce everything in rigorous order. Yet a course in symbolic logic taught in this tidy fashion is probably one of the most baffling courses many students ever encounter.

There are indeed some situations in which it may be best to start with relatively simple elements and then put them together to form more complex units. For example, in propositional logic we may start with a simple statement such as, "The door is open." This is either true

or false. So is the statement, "The window is open." We may then construct larger units by connecting two simple statements with words like "and," "or," and "if . . . then." It may then be shown that the truth of the larger unit depends on, or is a function of, the truth of its parts.

Only disaster could follow from trying to treat all problems in this manner. Suppose we try to teach the parts of an argument in this fashion. We might present the statement, "The door is open," as an example of a conclusion. Then present "The window is not open" as a premise. Next we present "The door is open or the window is open" as a premise. This would probably confuse the student at first, but with practice he could learn to call it a premise. Finally, we are ready to put these elements together to form a complex unit called an argument. We then have:

The door is open or the window is open.
The window is not open.
Hence the door is open.

If he has mastered the preceding steps, he will confidently identify "The door is open" as the conclusion. We must now baffle him by saying that in some cases "The door is open" is a premise rather than a conclusion.

The trouble here, of course, lies in the fact that the statements constituting parts of an argument are not classifiable out of context. The same statement may be a conclusion in one argument and a premise in another. Furthermore, there is no single clue which can be used as a reliable guide even in context. The conclusion is sometimes stated first, sometimes in the middle, and sometimes at the end of an argument. It is sometimes identified by the words "therefore," "hence," or "thus"; sometimes it is not.

In this illustration we simply cannot start with isolated simple parts. We must start with a whole argument and train the student to recognize the parts as they appear in context. To do this we can start with some examples in which the required discriminations are easily made. Initially the discrimination may be made quite obvious by some device, such as underlining or otherwise setting off one part and asking questions requiring direct attention to that part. Further examples lead through major variations. Extra clues are reduced, and the cases gradually become less obvious. After working through a program of such carefully selected and graduated examples, a student's perceptual habits are modified. He no longer sees merely a set of statements. He begins to see premises and conclusions as related parts of a larger complex unit.

This illustration points up one of the most important advantages of a teaching machine. In a textbook an author is necessarily restricted to the use of a very few examples to explain a point. Unfortunately every example exhibits many different characteristics, and it is not always easy for the student to distinguish the relevant from the irrelevant features of the illustrations. The easiest way to learn to make the necessary discriminations is to examine a wide variety of examples. In a very short time a well-organized sequence of items on a teaching machine can provide the experience needed for the learner to identify the relevant characteristics for himself. Furthermore, in such a sequence of questions it is possible to start with examples familiar to every student and lead him step by step to develop general principles and surprisingly complicated formulae for himself. Since he has derived the general principles from his own experience with specific cases, there is no problem of sheer verbalism or the mechanical manipulation of meaningless symbols.

In working on textbook exercises a student who has trouble with one problem is frequently tempted to skip on to the

next. More often than not this leads to increasing difficulties. The teaching machine presents the items in a controlled sequence of graduated steps. The student always has the information needed for the next step. If a particular sequence of questions does not in fact develop the intended understanding, then it should be revised and revised until it does.

I am not suggesting that the use of textbooks and classrooms is obsolete. However, it is important to note that the questions in a good program are not drill questions based on prior textbook readings or lecture notes. The subject matter is learned through answering the questions. The numerous examples encountered in the programmed material provide the background experience necessary for ready comprehension of a text or a lecture and for intelligent participation in discussions and the application of what has been learned to new areas.

The considerations mentioned above suggest the following requirements for a program of questions prepared for machine presentation. The program must start with something familiar to the student. With machines using microfilm it is possible to provide some of the necessary background experience through pictures, charts, diagrams, maps, and so on. There must be examples of sufficient variety to distinguish the essential features from irrelevant details. The questions must be graduated in difficulty so that the student may take each new step for himself.

Program techniques

There is much discussion over other features of a program. Some urge the use of multiple-choice questions. Others recommend questions requiring a student to construct an answer. For certain purposes multiple-choice questions may be quite satisfactory. On his first trip through a maze a rat must make a guess at each fork in the path. There is no better way to select a path because the connection is completely arbitrary. In human learning there are also many arbitrary connections to be learned. It is possible that multiple-choice questions are satisfactory in such contexts.

However, not only mathematics but all subjects taught in school have some structure imposed by the subject rather than the whim of a teacher. Where structure is important, the guessing encouraged by multiple-choice questions is surely the wrong way to arrive at a right answer. For this reason we have been using constructed answers almost exclusively in our logic program. The wording of the question and the context set by the sequence of questions are usually adequate to indicate the type of answer required. Occasionally this is not so. Then the quickest way to set the context is to indicate the relevant alternatives.

Some machines are designed to rerun a set of questions a second time presenting only those questions missed on the first run. This is continued until all questions have been answered correctly. Again this may be efficient where the connection between the question and answer is wholly arbitrary and must be mastered by drill.

However, there are two reasons for not following this routine in programs for structured subject matter. In the first place, the context is very important in a carefully graduated sequence of questions. If a student misses Question 16 because he has not got the point of the fifteen questions leading up to it, he can only be more baffled by getting the same question repeated out of context. He needs to go through all the steps again or, better yet, through an alternative sequence using a different approach. In the second place, in subjects like logic and mathematics nothing is of less importance than memorizing that "valid" or

"394" are the answers to certain specific questions, 16 and 21. What is important is to learn that "valid" is the correct answer under certain conditions. A mistake on Question 16 is of no consequence if the student profits from it and successfully handles subsequent problems like 16.

Programming techniques may vary in other ways as well. One variation is illustrated in the scrambled textbook. This technique requires multiple-choice questions. Each alternative directs the student to turn to a certain page to see whether or not his answer is correct. On the pages for the wrong answers he may find explanations of his error, further clues to the right answer, and perhaps a little scolding. The page for the right answer will contain congratulations and directions to the next question.

This technique is intriguing in some respects, but it is prodigal in the use of time and materials. For example, a sequence of forty questions with only two alternative answers per question would require forty extra pages in a text or frames in a film to carry the wrong answers. This appears insignificant in connection with an isolated experimental set of questions. Its economic importance becomes clear when one is considering a possible ten thousand questions for one course and thousands of copies of a program prepared for widespread use. To justify the large extra material costs, the advocates of this technique must demonstrate that it has a very marked superiority over a straightforward program. Furthermore, the advantage gained by explaining the reason for an error may be obtained by presenting it along with the correct answer. This is indeed helpful in situations where common-sense misconceptions lead most students to the same wrong answer.

Another proposed technique involves a complicated internal structure for the program with corresponding complications in the machinery. The questions presented to the student are in part contingent on his prior responses. Suppose, for example, that a set of ten questions is inserted in a program to check a student's mastery of a certain principle. If he runs into any trouble, presumably he needs more work on the same principle. A computer with a complex memory circuit and indexing circuit can be programmed to present further examples of the same principle. However, if the student runs through the key set of questions with no difficulty, it is presumed that he has mastered that unit. The computer may then offer the student a choice among several branches in the program. One branch may lead to the next unit. Other branches may involve an extension of the concepts just mastered or various applications of those concepts.

This branching technique has certain obvious advantages in dealing with the problem of individual differences. Again, any widespread use of machinery for automatic branching is economically unfeasible. However, the advantages of this technique may well be obtained in another way. Practical considerations suggest packaging a program in relatively small lesson units. A quick check of the results on one such unit may be used to indicate which lesson is to be offered next.

The following general system is suggested when the practical requirements for widespread use are put together with the characteristics indicated by the psychology of learning and the structure of materials to be learned.

1. Programs should be packaged in relatively small units.

2. Cost of duplication is important. Film is easily reproduced at low cost.

3. The packages must be easy to store and use without damage. This may be done by inserting strips of film between plastic sheets.

4. Machines must be easy to operate.

5. A group of machines may be arranged in a room with a check-out desk. A student arrives at his scheduled time, picks up the appropriate lesson, inserts it in the machine, and goes through the lesson. He then returns the lesson to the desk.

6. Along with his lesson the student picks up and signs a score card. This is inserted in the machine for automatic scoring. This score card has several functions. (*a*) It gives the student information about his work on that lesson. (*b*) The teacher will find it helpful in diagnosing individual difficulties. (*c*) A glance at the cards for the whole class will locate difficulties requiring classroom attention. (*d*) Records easily derived from these cards will be very useful in evaluating and revising sets of questions.

7. All programs to be used in the visual machine would be packaged in a standardized manner. The same machine would therefore be suitable for any subject.

8. An audio unit would be plugged in for automatic coordination of visual and auditory instruction. This will permit the construction of programs using any combination of visual or auditory questions requiring either written or oral replies. This has obvious advantages for instruction in language or music.

Implications for our educational system

It cannot yet be said that the effectiveness of the teaching machine has been fully demonstrated. However, if it turns out to be as valuable as early evidence indicates, there are many possible consequences for our educational system. Suggesting a few of these will emphasize the importance of further investigations.

Even a modest increase in efficiency of the learning process has very significant cumulative effects. For example, if we express a 12.5 percent gain in terms of time, the average student would master in fourteen years what he now learns in sixteen.

Any gain on the time dimension will be accompanied by a gain in mastery. By present standards it is a gentlemanly achievement to do approximately 70 percent of the work in a course satisfactorily. A grade of 60 in one course is usually considered adequate evidence of preparedness for the next course. Difficulties for student and teacher are cumulative when the 30–40 percent of unlearned material is needed for work at the next level. Satisfactory programs presented by the machine should permit every student to master the essential elements at one level before proceeding to the next.

Correlative with a gain in mastery is a decrease in failure. Instead of eliminating scholastic failure by automatic promotion, we may be able to eliminate it by nearly automatic achievement. Furthermore, students who discover the pleasure of success in school are unlikely to feel compelled to develop skill in throwing rocks through school windows.

It should be possible to develop programs for teaching machines which would produce a genuine mastery of basic skills at a very early age. It is by no means inconceivable, for instance, that high-level mathematical skills should become commonplace rather than the result of specialized training for a few.

The individual teacher should welcome this form of teaching aid. He can cover more ground more effectively in fewer hours spent in the classroom and conference room. Furthermore, the time he does spend with students individually or in groups may be used much more effectively. He knows just what can be assumed as a basis for further work.

An increase in general efficiency has a double significance for both private and public institutions. Reducing class contact hours for a course from three hours to two hours a week represents a sav-

ing of teacher time and a saving of classroom space. Both factors are becoming more and more important with a simultaneous rise in school population and the costs of education.

Since the teaching machines I am discussing are designed for individual use, they do not need to be installed in large rooms or even in school buildings. It might even turn out in the long run to be more economical to place a teaching machine in every home than to double the size of school buildings.

Finally some possible consequences for human values should be mentioned. It should be kept in mind that the teaching machine is merely an instrument for presenting instructional materials. In effect it provides superior private tutoring for every individual. The tutoring will be superior because the programs presented will be the work of experts who have tested the programs on many students and revised them until they do the job intended.

Many people fear that the use of machines will somehow mechanize the people using them. This is as absurd as supposing that a person is being turned into a machine by listening to a high-fidelity stereophonic recording of the New York Philharmonic Orchestra. It is the teaching machine that operates when a button is pressed. It is the student who presses the button. In fifteen minutes of work on a good sequence of questions and answers the average student probably devotes more concentrated, alert, and active attention to the instructional material than he does in the course of an hour in the average class. The correct answer is immediately available when he needs it, and the next question is presented as soon as he is ready for it. In a classroom situation it is impossible to obtain optimal timing for all students at once. Thus there is a prospect that the use of good programs in teaching machines may develop more alertness and spontaneity than the average classroom situation.

Our democratic goals of education are frequently criticized as producing a leveling down of standards and achievement. Problems created by increasing numbers have led some to abandon the democratic goals and concentrate on training an intellectual elite. The large-scale use of tested programs in teaching machines may make it possible for us to cope with the growing problems and at the same time raise our standards and actual achievements nearer the point of mastery.

I recently heard a woman complain that her son had been assigned to a teacher no one liked. She was afraid her son would not work well for this teacher. This is a phase of education frequently forgotten in praising the inspirational qualities of a good teacher. Good programs presented by machines will surely not hamper an inspiring teacher. But they should diminish the number of comments such as, "I would have been able to learn physics if I had only had a good teacher when I started mathematics."

Finally it is worth noting that a program presented by a machine has a double kind of objectivity.

1. In the first place every student answer is either right or wrong or in some respect either satisfactory or unsatisfactory. This is not at all the same thing as a true-false test in which the student must respond with the words "True" or "False." If a student is asked to identify the author of a sonnet, the answer is either right or wrong. To progress, the learner must know whether his performance is correct or incorrect. A sequence of questions and answers which provides such knowledge at each step guarantees objectivity.

In a good program of questions and answers the student should have little difficulty constructing the correct an-

swers. The difficulty lies in the construction of the questions and organizing them in sequence. The teacher must learn to ask questions which elicit answers which both teacher and student can easily recognize as correct or incorrect. If a teacher cannot ask any questions requiring the student to make some discrimination which is clearly right or wrong, it is doubtful that the teacher is teaching anything but shifting whims.

2. Programs presented by machines offer another kind of objectivity. Failing students frequently rationalize their difficulties by charging that the teacher does not like them. A machine develops no likes and dislikes. It has equal patience for the slow and the quick. It does not discriminate between rich and poor. It makes no distinctions with regard to race, color, or creed.

We do not yet know what part of our educational program should be presented in this manner. But it is clear that thoroughly tested programs will make it possible for us to come closer to realizing the democratic ideal of equal educational opportunity for all.

FIFTH-YEAR PROGRAMS . . . are not, of course, an entirely new phenomenon in American higher education. As early as 1931, Wayne State University (then Detroit Teachers College) established a "Postdegree Curriculum" for liberal arts graduates. In 1936, President James B. Conant sparked the organization of the Harvard Master of Arts in Teaching Program. But the movement did not gain widespread notice until after World War II, when the active support of the Fund for the Advancement of Education of the Ford Foundation was first felt. . . .

Why is there a need for fifth-year programs? Why cannot *all* students prepare for teaching within the four undergraduate years, as have the majority of new teachers for several decades? Arguments for the four-year liberal arts–professional education sequence are powerful: it is unhurried and proceeds as a planned, step-by-step sequence; it permits the college graduate to begin contributing to society sooner; a four-year program, followed by several years of experience in teaching, is an assurance of more profitable graduate study both in the individual's teaching field and in education; the financial investment of the fifth year is an unreasonable expectation for great numbers of prospective teachers, particularly women whose teaching careers may be short; not all prospective teachers are able to profit from graduate study.

These are telling arguments. It is clear that the four-year sequence will remain as the dominant pattern of training for teaching for many years to come. Nonetheless, the fifth-year pattern has grown as a viable alternative to undergraduate training, and will probably continue to do so, since it provides an important avenue for certain key groups of potential educators.—From "Introduction," *Preparing College Graduates To Teach in Schools*, edited by John D. Herzog, published by the American Council on Education, March 1960.

The Learner's Role in Effective Teaching

RICHARD K. MORTON

THE LEARNER possesses ample opportunity to influence teaching effectiveness. A large proportion of classroom and general instructional failure is rooted in factors contributed by the students.

It is, of course, nothing new to say that teaching, like virtually everything else, is affected by its environment, the situation in which it operates. Teaching obviously is not likely to get far if the student wills not to learn or if he interposes blocks of various kinds to make it as unlikely as possible. Ineffectiveness of teachers is not necessarily rooted in intellectual inadequacy, insufficient training, careless preparation, or personal indifference to the task at hand. There are a number of teachers whose cases I have looked into who are only in a relatively small way responsible for their poor record.

Review of a few of the circumstances will serve to reveal areas which are fertile in elements and relationships that can foster ineffectiveness.

In my opinion, it is a mistake, on the college level, not to make public to the students in advance the course assignments given to teachers. They do like to know who is going to teach what—and it may make a great deal of difference to their scholastic progress and their personal adjustment in college life. It is commonplace that we all react to different people in different ways.

Popular courses may be poorly scheduled, too, in that they come at unfortunate hours—possibly late in the day or after many students have already had a full schedule. Thus they come to a poorly scheduled period with everything stacked against retention, satisfaction, and challenge. Scheduling has a good deal to do with teaching effectiveness.

This may seem somewhat irrelevant to this subject, but it is very true that many a collegiate battle is lost in the registrar's office—that is, the way a student is handled and processed may send him along in such a way that he feels misled, trapped, or otherwise abused. His ordeal of filling out papers and getting himself registered can be of such a nature that he is already antagonistic by the time he gets into the classroom. Good methods and service in the registrar's office can help the teacher mightily.

I have often found, too, that granting the student all possible status and courtesy can help. I am not in favor of treating college students as if they were high school freshmen. I think we all ought to assume a certain measure of maturity until we are compelled to think otherwise. Many students react very favorably to being treated with dignity and respect. This can be overdone, but it is often underdone.

At any rate the affectations of bombast and haughty aloofness will do little to produce effective teaching. After all, the function of the classroom teacher at any level is not that of an academic peacock preening his feathers while students admire. It may be that the teacher feels that he has a situation where some of his students would not assimilate the truth if they sipped it with two straws, but an attitude of preoccupied and Buddha-like aloofness will win no awards. The consummate egotist, who must, as it were, run up his flag every

time he "comes aboard," has no place in responsible teaching.

While administration and faculty should be in control of all academic affairs at all times, it does not follow that they can or should ignore factors which may bear upon the student's readiness to learn.

It is certainly true that the classroom that is noisy, overcrowded, poorly illuminated, and with seats in poor condition can reflect on the efficiency of the teaching task.

There is need to keep a certain distance of respect and status between faculty and administration on the one hand and the students on the other, but there is little need for a strict "no fraternizing" policy. Where personalities have come to feel at ease with one another and as if they knew a little more about what a person's philosophy and attitudes and objectives are, they are going to approach the privilege of learning with much greater chances of success.

Teaching methods and patterns are open to misunderstanding, too. It sometimes happens that an able lecturer and authority will be regarded as a poor and unfruitful teacher because there has been no suitable opportunity for the learner to come to understand how the teacher operates and what he expects. If the learner is then flatly rebuffed, he may make it extremely difficult for anyone to teach him anything.

Campus intrigue and underground operations also can operate against teachers and cause a good deal of harm. It is not uncommon for fraternities or other groups to compile dossiers on teachers and accumulate materials which they pass around for all their friends to use. In at least one demonstrable case a clique of students banded together and conducted a subtle smear campaign against any teachers who had the temerity to give them a grade less than "A." This, of course, called for prompt and severe disciplinary action, but the administration encountered a good deal of trouble in gathering usable evidence against the culprits.

What I am really pointing out is the advantage of a good orientation program to begin the academic year. While I join those who are not in favor of "wet-nursing" and coddling students, I also insist on proper preparation of the situation to induce and stimulate effective teaching. I think that a president's and deans' reception and fellowship period is good, and I think the dean of students and his staff should have a full program of introductory plans which would help introduce new students to the campus and to its personnel. This orientation can begin, in some particulars, while nearby students are still in high school. Where there is cooperation with newspapers or radio and television, some preparatory articles and programs can be given through them.

I believe that the service provided by the University of Miami and others in presenting on television in the summer such introductory courses as elementary English and mathematics will not only help to fit students for better and higher work when they formally enter college in the fall but will also give them more of the feel of the college experience and an understanding of the kind of performance a college will expect. It may be that such courses and others can go on educational television networks and that more detailed brochures for orientation purposes can be prepared and more wisely distributed.

The learner's role must be basically one of getting prepared in attitude, motivation, circumstances, and scholarship. If the student goes to college under duress and with little positive motivation, learning will not be accomplished to any great extent. If preparation is too weak or if personal and family cir-

cumstances are unfavorable, learning will be much hampered.

I see how much point there is to these factors in my work as an evening college dean. Where even mature and highly motivated students must approach their task when too tired, harried by family, business, and community problems and commitments, their records will suffer. I suggest to all students, therefore, that before they approach any teachers and expect effective class instruction, they put their own house in order—for example, see to it that they are in proper health, have the proper amount of time to give, and are not in a situation where they are trying to undertake too much.

Many teachers are accused of all sorts of shortcomings when, in actual fact, the students are to blame for trying to qualify in courses too hard for them at the time or where their daily schedules will not permit them to do credit to all for which they are responsible.

The learner's job is to equip himself as favorably as he can for his task and then to know adequately what is required of him. He needs to understand what is involved in study on the college level—how to study and how to use a library. He also needs to know how to take notes and how to select what is most significant from his reading and his class lectures. He needs also to know how to review and how to organize what he has learned.

What often passes for ineffective teaching is really ineffective habits of learning on the part of the student. I am often amazed at the number of students who take virtually no notes and then wonder why they do poorly on reports and tests which call for knowledge that has been presented orally. Many a student has never learned how to use his time and how to interpret and summarize material. He has never disciplined himself in the ways of preparing involved assignments. Nor do many students make any real effort to understand the psychology of the teacher or his situation.

Above all, I think that there is a great need for diligence in seeing that students do not come to their college experience and their classroom instruction with minds distorted and burdened with misconceptions of both teachers and learning. There are many who start with campus gossip and hearsay and all manner of caricatures of actual college situations, and the unfortunate teacher has to contend with all that.

The learner needs to remain teachable and open-minded. If his attitudes are colored by distortions, he will not likely be fair to his teachers, and he will not get the best from his instruction. The learner needs to share in the common task of the college and to have a genuine concern for ideas and for his own reaction to them. If he thinks of himself solely as something absorbent and passive, he will not fulfill the requirements for real education. On the other hand, if his mind is so volatile and adventurous that it disdains being held back by anything, it may give scant heed even to the teacher's wisest words. We have many who approach college with a very cocky and know-it-all attitude.

I am pleading in these words for an understanding, on the part of all concerned, of those essentials of the learning process which originate with and are the primary responsibility of the learner. He can do much, if he will, to assist his teacher and to make the learning process smoother and more productive. Teaching and learning have two sides to them, and they require the sharing and cooperation of both teacher and learner. Whatever can be done by administration, staff, faculty, and campus organizations and fellowship to increase the cooperation and mutual understanding will be very rewarding. It is tragic to see so much effective teaching dissipated in situations

where the factors were all against it. It is also dismaying to know how many earnest and qualified teachers, who also have good techniques, get little chance to use them because of the specific situations facing them. Student morale and student cooperation can do much to guarantee challenging and productive teaching.

Many a teacher has become dynamic and adventurous, gifted in research and stimulating thought, because his students have challenged him and expected him to be that way.

THE OFFICE [of Education] is organized in the Office of the Commissioner and in six divisions, each under an assistant commissioner: (1) State and Local School Systems; (2) Vocational Education; (3) Higher Education; (4) International Education; (5) School Assistance and (6) Statistics and Research Services. The executive staff includes also a deputy commissioner and an assistant commissioner for program development and coordination. As of June 1, 1959, the Office had on its staff 1,022 persons—489 professional and 533 nonprofessional. Appropriations to the Office for administrative purposes were $12.8 million for the fiscal year 1960. . . .

A principal function of the Office is to carry on research on educational problems. Frequently the Office is called upon for educational surveys. Statistical reporting on education has been a principal feature of the service of the Office from its beginning. It cooperates with numerous other Federal agencies which carry on programs in education or programs that in some way affect education, and coordinates some government activities relating to education. Upon request, the Office advises congressional committees concerning proposed legislation on education.

The Office carries on numerous activities in international cultural relations, such as administering teacher exchange programs, planning and conducting training programs for foreign teachers, evaluating credentials of students from foreign institutions, making studies of education in foreign countries, coordinating United States attendance at international meetings involving education and developing the United States position on educational questions and problems for such meetings, and recruiting educational personnel for technical cooperation programs overseas and providing such personnel with professional support.

The publications issued by the Office are extensive, comprising various directories issued annually, statistical reports issued at varying but regular intervals, numerous bulletins and pamphlets on current topics or reporting surveys, and two periodicals. The *Education Directory*, issued annually in four parts, is a comprehensive list of educational systems, institutions, and associations and their principal officials. The *Biennial Survey of Education*, issued in even-numbered years, is an extensive volume containing statistics of education in the United States. The two periodicals are *School Life* and *Higher Education*, both issued nine times a year.—From *American Universities and Colleges*, Eighth Edition, edited by Mary E. Irwin, published by the American Council on Education, April 1960.

Sociological Aspects of Professional Salaries in Education*

EDWARD GROSS

IN THE literature on educational salaries, an oft-repeated theme may be stated in the form of a syllogism:

Professionals, such as doctors and lawyers, receive large incomes.
Teachers are professionals.
Therefore, teachers should receive high incomes.

Clearly, something is wrong. The conclusion should read that teachers *do* receive high incomes, and we know they do not. Since there seems no doubt that teachers are professionals, we are left only with the major premise, and the data from occupational research suggest that it is, at best, only roughly true.[1] Such professionals as social workers, nurses, clergymen, artists, police detectives, and researchers do not earn very high salaries. On the other hand, some professionals do—lawyers, doctors, professional criminals, for example—but not even all of them.

What I am questioning is the frequent tendency to take doctors' and lawyers' incomes as our models for our conception of educational salaries. If we examine the various ways in which income is derived from occupations, we find we can divide them into three main categories: (1) income derived from one's own entrepreneurial activity by selling goods or services in a free market—for example, independent craftsmen, independent professionals, and businessmen; (2) payment received from a firm on the basis of its earnings in a competitive market; and (3) income from occupations subsidized out of taxation or philanthropic sources—for example, government employees and employees of nonprofit organizations such as social work agencies, hospitals, universities, and schools.[2] We see here the difficulties of making comparisons from one category to another, and some occupations can even be found in all three categories. An engineer may be in private practice taking fees as a consulting engineer; he may be on the payroll of a factory where his salary will depend on the earnings of the factory as a whole; or he may be part of an engineering corps in the Army. Even teachers exist in all three categories—the music teacher who charges per pupil, the trainer in the personnel department of a factory, and the teacher in a public school. Depending on where one practices one's occupation, one's market position is different, and correspondingly the forces determining the size of one's income will also be different.

* I am indebted to Professor Jack London for valuable suggestions and criticisms, and to Professor Albert D. Waterman for critical reading of an early draft.

[1] For a good general discussion of income, see H. P. Miller, *Income of the American People* (New York: John Wiley & Sons, 1955).

For specific data by occupation, see Department of Commerce, Bureau of the Census, *Population Census Report*, vol. IV, part I, chap. B, "Occupational Characteristics," 1956.

For an excellent reworking of these data to overcome problems presented by the omnibus character of census categories, see L. G. Thomas, *The Occupational Structure and Education* (Englewood Cliffs, N.J.: Prentice-Hall, 1956), especially chap. 6 and Appendix B.

[2] This categorization is drawn from Talcott Parsons, "A Revised Analytical Approach to the Theory of Social Stratification," in Reinhard Bendix and Seymour M. Lipset (eds.), *Class, Status and Power* (Glencoe, Ill.: Free Press, 1953), pp. 121–22.

Let us look more closely at this matter. The professionals, as a group, are supposed to concentrate on doing the best possible job that they can.[3] Attention is ideally to be concentrated only on the professional problem presented by the case at hand, and such matters as personal friendship and the ethnic group, religion, race, or social class of the client are assumed to be irrelevant. Among these things that are irrelevant is money. "The professional, it has been said, does not work in order to be paid: he is paid in order that he may work."[4] Here we encounter a paradox. A British student of occupations states it this way:

> The professions . . . are respectable because they do not strive for money, but they can only remain respectable if they succeed, in spite of this pecuniary indifference, in making quite a lot of money, enough for the needs of a gentlemanly life.[5]

In the United States, the "gentlemanly life" may not concern us much, but we do recognize that a teacher cannot concentrate her best efforts on her job if she is tired because she has to have a second job or because she is constantly anxious about finances. Then too, the doctor behaves as if he were not interested in sordid money. He may refuse money offered him directly, preferring that his secretary shall send a bill. However, his services are supposed to be so valuable that money is expected to roll in, virtually unsolicited. The client should feel that the services he has received are beyond a price: after all, what price can one put on one's health? The bill he pays is little more than a token payment. But from time to time the money does not roll in unsolicited, and then the professional may behave in a most businesslike way, such as calling in person at one's home or turning the bill over to a collection agency. Teachers are in this position. Their services are also valuable beyond price, but the money does not seem to roll in. Why not?

We secure a clue by looking at salaries from a sociological point of view. This does not, of course, present a full explanation but one that is an essential part of the picture. In some discussions of income one encounters references to the "importance to society" of some occupation as justifying its high pay. Yet one could spend a fruitless hour discussing the relative importance of teaching the young and burying the dead without explaining why the latter yields more income than the former.

We must ask what position in society the occupation has. Society, like any person in it, will pay as little for any service as it can. Therefore, the reward for a service depends, in part at least, on what society can be forced to pay, a situation that makes pay frequently a matter of power.[6] From this point of view, a service in high demand places those who supply it in a strong power position. If it is in high demand *and* of an emergency character, then those who supply it (doctors, lawyers, plumbers, TV repairmen, drug smugglers) can demand more money than those who supply services that can, relatively speaking, be postponed (architects, librarians, many types of researchers, gardeners, rug-shampooers).

A strong power position is also enjoyed by those whose service is in demand and is rare, either because of nat-

[3] For a discussion, in detail, of the criteria of professionalization, see Edward Gross, "Some Suggestions for the Legitimation of Industrial Studies in Sociology," *Social Forces*, XXXIII (1955), 233–39.

[4] T. H. Marshall, "The Recent History of Professionalism in Relation to Social Structure and Social Policy," *Canadian Journal of Economics and Political Science*, V (1939), 325.

[5] *Ibid.*, p. 326.

[6] For a discussion of income from the point of view of power, see Edward Gross, *Work and Society* (New York: Thomas Y. Crowell Co., 1958), pp. 120–22.

ural scarcity (beauty, talent, risk of injury or death), long preparation, or because of scarcity through restriction of entry to the occupation.

In teaching, the demand seems to be high, but the service is not usually of an emergency character. Perhaps psychiatrists might be a better comparison group for teachers than would the ordinary medical doctor, but psychiatrists are also fee-takers, and the latter are often (though not always) in a better power position than salaried personnel. Teachers are not fee-takers, and most of us would not want the income of the teacher to rest on the number of students he has. Nor can their power position be increased appreciably, in my opinion, by resorting to such tactics as strikes which seem inappropriate for purveyors of an essential service, as they are inappropriate for policemen, firemen, and soldiers.

If educators wish to increase their power position, their major recourse, it seems to me, is that of keeping their numbers down. It is important not to misunderstand this point. I do not advocate deliberate restriction to the end of an increase in power position. Such a mercenary line of action would surely fail and be rejected, quite properly, by the professional himself since he is dedicated to service to the society and not power over it. But all professions carefully restrict entry to ensure that practitioners will be properly trained and qualified and to increase the ease of control of those already in the profession so that proper standards may be maintained.

The teaching profession certainly would and does concur on the desirability of those goals. It would be desirable to guard them carefully and not let standards fall on the grounds that teachers must be provided at any cost. If *these* goals are kept continually in the center, then the power of the profession will increase *indirectly* and thereby the twin goals of high standards and high income may be more easily pursued.

Related to numbers is the deleterious effect on income provided by the presence of a reservoir population which moves in and out of the occupation to satisfy current pressing needs. An example is teen-agers seeking pocket money who take farm jobs during the harvest. Often willing to take low wages and uninterested in long-term considerations, they depress the wages of regular farm laborers. In teaching, the largest such group consists of married women who move in and out, depending on the economic status of their families, and who, like the teen-agers, may be willing to work for low wages and be uninterested in long-term considerations.

There is nothing wrong, per se, with hiring such persons, provided that their mere availability and cheapness do not influence us to close our eyes to gaps in their qualifications. And one important gap is their lack of a commitment to the profession. Few would care to have a lung removed by a man who was temporarily back in to help out in the shortage of pulmonary specialists.

On the subject of numbers, we should bear one other factor in mind. Even a country as rich as the United States has a limit to its ability to pay for services. A small group, physical scientists, for example, may be able to double or triple its wages without affecting total costs very much. But should a large group try to do so, a severe strain is imposed on the economy.[7] And teachers are becoming such a large group.

Lieberman [8] estimates that if teachers were actually to receive the average in-

[7] See T. Caplow, *The Sociology of Work* (Minneapolis, Minn.: University of Minnesota Press, 1954), pp. 145–46.

[8] M. Lieberman, *Education as a Profession* (Englewood Cliffs, N.J.: Prentice-Hall, 1956), p. 413.

come of doctors, the wage bill alone would exceed by $2 billion per year the entire cost of public education. As the numbers of pupils in schools go up, we should speak, it seems to me, not of the increased need for teachers, but of the increased need for teaching. We may ask not only where will the teachers come from but also how can we more effectively use the teachers we have? There are unanswered questions here about effects on size of class and teaching efficiency which space does not permit me to discuss, but they do not, I believe, present insuperable problems.

I have emphasized power position as a factor in income determination because I believe it is a major and practical avenue for the increase of teachers' income. What of the role of prestige in salary determination? In general, prestige and size of income are positively related, but it is often difficult to say which is cause and which is effect. The money that persons of prestige may enjoy does not come by magic—there must be an intervening mechanism for converting prestige to money; for example, a sports hero may earn a great deal of money through the endorsement of a commercial product. I am not advising teachers to endorse LePage's glue or Eberhard Faber pencils, for the primary intervening mechanism for teachers is the legislature.

In the case of socialist countries, an occupation with high prestige will have high income by government fiat. Thus in the Soviet Union teachers' salaries parallel those of physicians, whereas in Israel manual laborers' salaries are not far from those of physicians. If the prestige of teachers in the United States rises, legislators may feel they can justify higher salaries for teachers to their constituents. However, even here numbers are of central importance. In the Middle Ages, the occupation of scribe had high prestige only as long as few persons could write. Prestige is lost if it is spread around too much. It also seems to be elevated if the members of an occupation have strong identification with their work and conceive of their function not simply as the rendering of a service but as having the character of a mission. To that end, professional organizations which help define appropriate behavior and control anomalous behavior seem to be universal.

Up to this point, I have dwelt on certain problems presented by the size of salaries, and in so doing I reflect the concern I find in the literature. It is certainly important, perhaps of first importance, but it should not lead us to ignore the symbolic significance of money. To take a simple illustration: when we give a tip to the waitress, we not only add to her income but we also tell her what we think of her services. In this connection, recent research on the social-class origin of teachers is relevant.[9]

In the years before the 1920's, teachers came mainly from middle-class homes. Teaching was also one of the few respectable occupations for women and attracted even women from upper-class homes. But with urbanization, the great growth of the school population, the growth of teacher-training schools, and the availability of other occupations for women, the social composition of the teaching profession has changed. A number of studies show that now the majority of teachers come from lower-middle or lower class homes. A recent study by Wattenberg[10] in a large city found that 45 percent of teachers under forty years of age came from working-class families,

[9] For a good discussion of the social origins of teachers, see R. J. Havighurst and B. L. Neugarten, *Society and Education* (Boston, Mass.: Allyn and Bacon College Division, 1957), chap. 16.

[10] W. Wattenberg, *et al.*, "Social Origins of Teachers: Facts from a Northern Industrial City," in L. J. Stiles (ed.), *The Teacher's Role in American Society* (New York: Harper & Bros., 1957), chap. 2.

with only 35 percent coming from middle-class families. The city was an industrial one, but other studies elsewhere show a similar pattern.[11]

We know from other sociological research that money has different meanings to persons in different social classes.[12] Also, occupational research shows that when persons think about their salaries, they tend to compare themselves with certain others who act as points of reference for the evaluation of their own progress.[13] One such comparison group appears to be one's former schoolmates. If a teacher comes from the middle class, most of his former middle-class schoolmates are probably not in teaching, but are in middle-class occupations and are probably earning more money, perhaps a great deal more, than he is. Since money is the main difference, he is likely to be highly conscious of it and be keenly desirous of increasing his pay.

By contrast, if the teacher is from a working-class family, his former schoolmates are probably in skilled or semi-skilled jobs, and are earning about the same or only a little more money than he is. The striking contrast, to him, will be the white-collar features of teaching, and he will tend to feel strongly the value of the hours, the security, and the prestige of his position. If the teacher was upwardly mobile, again social class will be important. The boy from a working-class family who was ambitious will be gratified at being a teacher at all. His family and perhaps his ethnic group, if he has one, will proudly point him out as "one of our boys who made it." By contrast, the boy from a middle-class family who becomes a teacher has not, by that token, risen. If he is upwardly mobile, we may expect him to try to improve his position by pressing for more money or aggressively seeking an administrative position.

Let us look next at the problem of salary differentials. In industrial sociological research it has been found that differences in wages and salaries are not interpreted solely in terms of the groceries they will buy but in terms of group comparisons. The question, in other words, is, not only how am I doing in terms of my ability to pay the family's bills, but also how am I doing in comparison to somebody else?[14] In industry no one questions the validity of wage differentials per se. Even in factories with a straight seniority system it is accepted as perfectly proper that punch-press operators should receive a lower hourly wage than tool- and die-makers. The reason for this acceptance is that the justification for the difference—superior skill—is accepted as a legitimate criterion by both punch-press operators and tool- and die-makers. The seniority system functions as a floor to ensure everyone a minimum wage and as a reward for loyalty and continuous service.

In education, the preparation or single-salary schedule can have a similar function. In addition, of course, amount of preparation and experience may be assumed to have a positive correlation with teaching efficiency. However, it is difficult to see how, if that is *all* one has, one can attract and hold persons with special talents, such as science or mathematics teachers, when there is competition for such persons from noneducational powers and sources.

[11] See, for example, W. S. Elsbree, *The American Teacher* (New York: American Book Co., 1939); F. Greenhoe, *Community Contacts and Participation of Teachers* (Washington: American Council on Public Affairs, 1941); and E. C. Valentine, "The Occupational Expectations of Three Normal School Student Groups" (Master's thesis, University of Chicago, 1950).

[12] The literature here is extensive. An insightful summary is found in J. A. Kahl, *The American Class Structure* (New York: Reinhart & Co., 1957).

[13] Excellent illustrative cases are to be found in W. F. Whyte, *et al.*, *Money and Motivation* (New York: Harper & Bros., 1955), especially chaps. 8 and 10.

[14] See for example, *ibid.*, pp. 213–15.

In one firm in which I did research, the company was faced with the task of hiring key-punch operators to punch IBM cards. Key-punching is similar to typing but requires less training. Yet the company was forced to pay key-punch operators more than typists in order to attract them to the position. The typists were unhappy with the situation but took solace from their claim that key-punch operators were little better than "machine slaves": the key-punch operators, who were mostly typists who had learned the new skill, felt the pay difference to be no more than adequate recognition of the risk they were taking in their new jobs since the demand for key-punch operators was not as high as for typists. There was grumbling, but everyone recognized that the company had to pay them the higher wage since they knew the company would never pay one cent more than it had to. No one, except the key-punch operators, thought they were being paid for superior work.

Similarly, if one must pay the science teacher more to hold him, I doubt that anyone except science teachers thinks that their subject is more valuable than others. The problem is one of market contingencies, and, whether we like it or not, this is a simple fact of life.

This brings us to the subject of merit rating, the object of much current controversy. One reads of the problems of assessing teacher efficiency and of who is to do the rating—difficult, but not impossible to settle. The use of pupil performance as a criterion has been suggested, and that *is* liable to serious abuses. It is comparable to paying the physician according to the number of cures he can report. In some ancient legal codes, a physician might be put to death if the patient died, a situation that must have led physicians to select their cases carefully and reject those who needed help the most. If teachers' salaries are related to students' class success, teachers may, with clear conscience, begin giving heavy homework assignments and pressuring their students, whereas a few teachers, without clear conscience, might begin to give easier examinations. But these dangers too can be examined and possibly controlled.

Community service is mentioned as a possible basis for merit rating and is usually rejected as "nonprofessional." I suppose it is, but community service is found very widely among all professionals, and sometimes for the most mercenary reasons. The gynecologist may join public service organizations in which he has no interest whatsoever in order to build a favorable public image of himself and so attract patients. But speaking more generally, since the professional is the guardian of our most vital activities, we expect from him not merely that he be competent but that he should be beyond reproach. He is inevitably, therefore, something of a public figure, and his private life is the object of careful scrutiny. How far this should go is a matter for debate, but one seldom does away with it completely.

In sum, merit rating presents problems, but none of them is insuperable. The major consideration should be to see that it is done in an objective manner that is in accord with the teacher's conception of what is right and necessary. The administrator who decides not to hire a highly qualified mathematics teacher on the grounds that the salary to attract him would anger the teachers on the staff is, it seems to me, performing a disservice, not only to students and parents, but to the faculty itself. No man wishes to find himself on the same faculty with incompetents, and morale and turnover may be expected to be affected. Nor does such an administrator really avoid the problem. The English teacher will grumble to learn that a competent science teacher makes more money than she does; but will she not also grumble, and more loudly, when she finds that an *in-*

competent science teacher is being paid the *same* as she is? The need, in my view, is for a careful examination of the criteria for evaluation of specialty and performance—and I think this should be a subject for research—the explanation of these criteria to teachers and the securing of their consent, and, finally, the assignment of salary differences strictly in accord with these criteria.

But what shall these criteria be? We make a serious mistake and take action we shall later regret if Russian success in launching satellites leads us to panic into offering high salaries to science teachers to the neglect of all else. A physical education instructor who had seen the Russian Bolshoi ballet told me we should pay higher salaries to attract physical education instructors to the schools since he felt the Russian emphasis on calisthenics was responsible for the excellence of the ballet. In other words, we should not let the criteria be determined for us but should examine our value system and make decisions we can live with and justify to the world at large. Excellence of teaching, performance levels, and training would probably constitute basic criteria, while others should be the object of research. We need more knowledge of what abilities and types of training contribute to effective teaching.

I have given attention primarily to salaries as such. Yet a great deal of industrial sociological research argues for the proposition that salary is only one of a complex of forces which motivate the worker. It may be the most important, but it is not the only one.

In an extensive study of school superintendents in Massachusetts, headed by Neal Gross, one problem examined was the type of situation in which the superintendent was exposed to contradictory pressures from different groups around him. Two problems were found to involve the most contradictory pressure—teacher salary recommendations and budget recommendations. In connection with salary, for example, school superintendents reported that they were under pressure from eighteen different kinds of groups to go one way or the other.[15] For example, groups that pressured him to try to keep salaries down were politicians, business organizations and influential businessmen, taxpayers associations, and town finance committee or city council. On the other hand, groups that pressured him to push salaries up ever skyward were church groups, labor unions, P.T.A.'s, personal friends, service clubs, school committee, *and* teachers. One other interesting "group" also pressured the superintendent—the committee of one known as "my wife"—so that he had no escape even at home.

I bring up Gross's study because it highlights a vital point in any salary discussion: teachers do not simply want money; they want and value a superintendent who seems to be on their side and to be sympathetic with their needs. At the same time, a superintendent who tries to increase salaries and fails, through no fault of his, will create a favorable attitude among teachers toward working in his school system, even though the teachers have no more money than before.

This generalization is not mere speculation but is supported by solid research. This research goes back to the most famous pioneer experiment in industrial sociology, that at the Hawthorne works of the General Electric Company.[16] A small group of women, assembling telephone equipment, performed feats of

[15] N. Gross, W. S. Mason, and A. W. McEachern, *Explorations in Role Analysis: Studies of the School Superintendency Role* (New York: John Wiley & Sons, 1958), chap. 16.

[16] F. J. Roethlisberger and W. J. Dickson, *Management and the Worker* (Cambridge, Mass.: Harvard University Press, 1940).

A good popular treatment is to be found in Stuart Chase, *Men at Work* (New York: Harcourt, Brace & Co., 1945), pp. 15–20 and *passim*.

productivity that were beyond management's dreams, but no one knew why. The experiment was designed to do no more than test the efficiency of workers under different illumination conditions. Every few weeks, the lights in the workroom were changed. When more powerful lights were put in, productivity went up, as expected. But when the lights were weakened, productivity also went up. And once, when the maintenance man came in, removed the lights, and replaced them with lights of identical strength, productivity went up even higher! What was the mystery? The women explained it very simply. It was because of the very fact that they were being experimented upon when the company was trying to find out what lighting the women preferred. One woman commented that this was the first time in her ten years at the plant that management had done something that proved it was concerned about her.

This effect is not peculiar to factory workers. The most important single factor in job satisfaction has been found to be the supervisor. In the school situation this is the principal and superintendent, usually. Francis S. Chase,[17] in a study of over two thousand teachers in forty-three states, found a close correspondence between ratings teachers gave to superintendents, principals, and supervisors and the degree of their satisfaction with the school system and with their jobs. When the teachers were asked which factor contributed most to job satisfaction, over 88 percent replied: the leadership of the principal.

Miriam Wagenschein,[18] in a study of beginning elementary teachers in Chicago, found the principal to be the most important single factor in making a school a "good" one. And what do teachers want from their administrators that makes these people such crucial figures in their evaluation of their jobs?

Howard Becker[19] and Joseph Yarbrough,[20] in separate studies, found that the most highly sought-after feature was support in stress, as in discipline cases or cases involving understanding and respect.

These studies represent only beginnings, and we need more research on what teachers value and why they do so. We need to understand their motivation and the place of salary in the total structure of incentives. And we must be careful that we do not dismiss such a finding as "teachers wish support from their administrators" as mere common sense. Some of the most exciting research now going on in sociology is the testing of the great body of common-sense beliefs that are widely held. One, for example, is the belief that it is more difficult to get ahead in America now than it used to be in the days of Rockefeller and Vanderbilt, and the evidence denies this claim.

So we want to know, not simply how much money teachers want, but what money means to them, and how important superintendents, principals, fellow teachers, power groups in the community, and pupils are in the teacher's picture of his job and his profession. We want, in other words, to know how we can create a climate in which the teacher and superintendent can take pride in their profession, enjoy one another's high esteem, and concentrate on the task of giving youngsters the tools and knowledge with which they can, perhaps, solve the world problems that we, of this generation, are forcing them to face.

[17] F. S. Chase, "Factors Productive of Satisfaction in Teaching" (Ph.D. dissertation, University of Chicago, 1951).

[18] M. Wagenschein, "Reality Shock: A Study of Beginning Elementary School Teachers" (Master's thesis, University of Chicago, 1950).

[19] H. S. Becker, "Role and Career Problems of the Chicago Public School Teacher" (Ph.D. dissertation, University of Chicago, 1951).

[20] J. Yarbrough, "Morale is a Number of Things," *Illinois Education*, XXXVIII (1949), 130–31.

Recruiting College Faculty Members

A Short-Range View of the Problem

KEVIN P. BUNNELL

It is now clear that American higher education has entered a rapidly expanding economy. Labor in this economy is governed by the laws of supply and demand just as surely as is labor in industry. As the demand for teachers increases, many colleges will face the prospect of being inadequately staffed. Some of these institutions will accept the competition for good teachers as a challenge. They will seek to attract and hold topnotch people by putting their sacred cows out to pasture and mounting imaginative and aggressive recruitment campaigns.

Although the literature is full of discussions of the long-range problems of faculty recruitment, only a few articles focus on the more immediate problem of recruiting faculty for next year and the year after. Assuming that the nature of a college's efforts at recruiting is likely to influence significantly its long-term ability to field a strong team of teachers, it seems appropriate to seek information about new and promising recruiting methods.

With this in mind, the author wrote to thirty-six deans and college presidents throughout the country asking for statements of the faculty recruitment techniques they are using at present. As a means of focusing attention on the more unusual recruiting techniques, the author listed in the letter three widely used methods and asked that these *not* be discussed by the respondents. The three methods were: (1) attending professional meetings to make contacts and to use employment facilities; (2) getting in touch with college placement offices; (3) writing to deans or professors in graduate schools. As a result, the following analysis tends to pass over the most frequently used techniques of recruitment and concentrate on new or little-known procedures.

The twenty-three responses represent a very small sample. Since no elaborate questionnaire was used, the replies were informal and are certainly not subject to statistical manipulation. Nevertheless, in aggregate they contain sufficient consistency of tone to suggest a number of conclusions, tentative though they may be. A larger, more systematic study would fill in details, but one may venture to assume that its broad conclusions would not be greatly different from those suggested by the present study.

Although the survey yielded a number of interesting ideas for recruiting college teachers, the general impression it produced brings to mind Mark Twain's aphorism about the weather—everybody talks about it, but nobody does anything about it. Many of the respondents said in effect, "We really are doing nothing new or unusual in the area of faculty recruitment. However, the matter is of great concern to us, and we shall appreciate hearing of any new ideas which may come out of your study." In spite of these expressions of concern, there is no indication among the colleges polled of a definite trend toward better organized, more imaginative programs of faculty recruitment. The methods described by most of the deans and presidents who responded are substantially those employed by college administrators for the past fifty years.

A content analysis of the replies identified twelve methods which seemed to merit description.

1. *Seeking advice and information from faculty and key people.*—Fifteen of the twenty-three respondents mentioned this method. Such statements as the following are typical: "We invite all present members of our staff to recommend friends and/or acquaintances to us as possible candidates." "Personal contacts with men of high competence in the field is perhaps the most fruitful." Several administrators added that this was the most effective way they knew for getting the names of candidates. Certainly it is one of the easiest and least expensive techniques. And, in the long run, in spite of all efforts to devise new and different ways of recruiting, it may be the best single method of approaching the problem. There is one caveat. This technique is likely to cause inbreeding. Asked to suggest candidates for a position, faculty members will usually recommend people who are like themselves —whose academic preparation and philosophy of life are like their own. Administrators who rely heavily on faculty help in recruiting should guard against the deadening effects of inbreeding.

2. *Consulting commercial employment agencies.*—The second most frequently used method of recruitment was mentioned by only five respondents. One dean implied that commercial employment agencies were a last resort for him. In contrast to this, another dean said, "I do not shy away from using what I consider the two best placement agencies and hope that in time quality agencies will gain more prestige and be used more effectively. If this is accomplished, a candidate will have a way of approaching a college, and vice versa, when the traditional routes which must involve contacts may not be operative." This view stands in interesting contrast to the warnings of other deans who insist that the best jobs are never registered with the commercial agencies. Perhaps so. Yet, in the coming years, those charged with procuring topnotch college faculties will want to leave no stone unturned.

3. *Scouting: Recruitment field trips.*—Four respondents recommended the more aggressive technique of traveling in search of qualified candidates. "Go to the schools where they have high standards, good training, work hard enough, and you frequently can turn up some promising candidates," suggested one dean. Another confided that "When any member of our faculty visits another institution for any purpose whatever, it is always suggested that he be looking for prospective faculty members even though no vacancy appears at the present time."

Although the replies in this category were few, they seem to suggest two distinct kinds of scouting. What might be called the shotgun effort is usually conducted in conjunction with some other enterprise which involves travel. The second quotation above illustrates this approach. The rifle-shot method is illustrated by the first quotation. The official responsible for hiring takes a *recruiting* trip to find specific people to fill specific openings. What is true of most recruiting efforts is especially true of the rifle-shot approach. The success of the effort is usually in direct proportion to the amount of groundwork which has been done in advance. If the college has publicized itself and its needs effectively, the work of the recruiter will be far more productive. It is worth recognizing, however, that as college teachers become increasingly scarce, this method, unsupported by other more imaginative measures, will be decreasingly effective.

4. *Seeking the help of business and industry.*—Only three of the respondents acknowledged using business and industry as a source of candidates. It is interesting to note that of the three institutions represented, one was a technical

institute, one a state college, and one a highly respected liberal arts college.

The writer is inclined to believe that this method of recruiting, though badly undersold in years past, will be far more widely used in the future. Recently compiled statistics indicate that industry's investment in educational enterprises surpasses in dollar value the efforts of all the rest of the nation. Thus, it is not surprising that industry is becoming recognized as a source of personnel to teach highly specialized technical subjects. As industry's interest in both research and general education grows, it will become increasingly a source of personnel qualified to teach courses in the pure sciences, mathematics, and even the social sciences and the humanities. The full implications of industry's vast new interest in education are yet to be probed. We may be sure of one thing, however. Many colleges will obtain valuable assistance with their staffing problems through close cooperation with business and industry.

5. *Surveying the professional literature.*—Three college officials related that they had found good candidates for positions by surveying the literature of the field in which vacancies existed. The reply of one dean suggests a healthy respect for the limitations of this method. He said, "For certain positions a study of educational literature reveals authors who have at least writing ability or research ability which may be valuable in some of our positions." Perhaps the dean had in mind the danger of overemphasizing this method. Only a small percentage of college teachers win recognition through their publications. It would be unwise indeed for a college to cut itself off from the numerous teachers who do not happen to find fulfillment in the process of writing and publishing books and articles.

6. *Advertising in professional journals.*—This device, recommended by only two deans, will probably be used more frequently in the years to come. It has the disadvantage of evoking a large number of responses which must be processed to identify a few qualified candidates. It is a passive measure which, over a period of several months, may produce much or very little. For the energetic dean who wants his recruiting program to move along rapidly, it may be marginally satisfactory.

The remaining methods of recruiting were each mentioned only once in the responses. The fact that they are not widely used makes them no less interesting. The first two reflect sensitivity to important current developments in higher education.

7. *Cooperation with neighboring institutions.*—The first of these was phrased this way: ". . . we contact administrators and teachers in our sister institutions." In the past, it has been characteristic of colleges located in the same geographical area to maintain rivalries among themselves. We are rapidly approaching the time when the smaller colleges, particularly, must either work together or face serious difficulty separately.

This is especially true with respect to faculty recruiting. Cooperation in this area might take the form of an organization financed and operated by a number of small colleges for the purpose of seeking out potential faculty members. The details of such a plan are not properly the subject of this paper, but, briefly, they could include such features as a common salary scale, commonly financed recruitment trips, cooperative interviews with candidates, and a central office for handling personnel requisitions and applications for positions.

8. *Seeking information from philanthropic foundations.*—This recruiting suggestion relates to the increasing im-

portance of the philanthropic foundations in the educational economy. The executives of these organizations are in a unique position with respect to the problem of faculty and staff recruitment. Most of them are widely acquainted with persons in higher education. At the same time, they are familiar with the needs and characteristics of many institutions. Because they can synthesize their knowledge in these two areas, they are in an excellent position to make wise personnel recommendations. The president of one of the larger foundations is said to recommend more people for educational positions than any other individual in the country.

9. *Public Law 918.*—One dean called attention to Public Law 918, Eighty-fourth Congress, August 1956, which "makes possible cooperative agreements or interchange of employees of the U.S. Department of Agriculture and land-grant colleges and other state institutions. Hence, qualified people in agriculture subjects and agriculture-related subjects may be 'detailed' to a campus for as long as two years." This law will be of no help to private colleges. On the other hand, it might be worthwhile for institutions located in areas where there are large concentrations of government workers to look into the possibility of securing the part-time services of qualified teachers among them.

10. *Teachers from other lands.*—This same dean recommended looking to other nations as a source of teachers. Because of colonial retrenchment in recent years, a number of European nations are crowded with professional people. The Secretary General of the United Nations has indicated his willingness to assist in the transfer of such people. The American Council for Emigrés in the Professions, 62 West Forty-fifth Street, New York 36, is also interested in the problems of professional people in other lands. They are in a position to provide information concerning professionals who are interested in finding positions in this country.

11. *Retired teachers.*—The dean's third suggestion had to do with retired personnel—a group whose potential for filling faculty vacancies will surely be tapped during the next few years. Every spring the colleges are deprived of hundreds of fully capable faculty members by compulsory retirement regulations. One foundation has already established a program to keep the best of these people in circulation. In the years to come, the colleges will loosen their compulsory rules, or they will be forced into the wasteful and inhumane practice of retiring one faculty member and hiring a retired person from another college to replace him.

12. *Retired government employees.*—Many government services retire their personnel on the basis of years of service rather than age. The Armed Forces, the diplomatic services, and other branches of the government often release persons who will not reach college retirement age for ten or fifteen years. Many government branches will comb their personnel lists to discover persons close to retirement who will meet college faculty needs. A recent survey of military personnel revealed that about 18,000 people near retirement age were interested in college teaching.

These last four suggestions for recruiting deserve a word of additional comment because they share a characteristic which is absent from all but one of the other methods discussed. These four suggestions and the earlier one concerning contacts in business and industry involve tapping *new sources* of college teachers. The other methods imply merely a more intensive and a more highly competitive canvassing of existing teacher resources. Needless to say, recruitment methods which bring new people to the profession are much to be

preferred over those which do not lead beyond the sharing of scarcity.

This analysis of the recruiting techniques employed by college administrators does not, by any means, call the entire roll of new ideas concerning faculty and staff recruiting. Nowhere in the twenty-three replies was there mention of such procedures as seeking staff members among faculty wives, preparing a brochure setting forth the advantages of teaching at a particular college, or appealing to nonprofessional organizations —other than business and industry—outside the institution.

Several weaknesses appear in the present recruiting practices of the colleges studied. First, college administrators apparently do not yet view the recruitment problem as serious enough to merit dramatic action. They seem to have achieved only a verbal recognition of the problem.

Second, administrators seem to be overly committed to the traditional methods of recruiting. No one denies that the old methods will continue to play an important part in filling faculty positions. But the inexorable pressures of the future will demand a far more creative approach to the problem—a willingness to seek out and try new ideas.

Third, the colleges are failing to work together on a problem which, in all likelihood, would respond nicely to cooperative efforts.

On the positive side, it seems clear, first, that the colleges perceive the importance of numbers in the recruiting process. A substantial proportion of the respondents indicated that they work closely with large numbers of their present faculties and key people in the field as they seek new teaching talent.

Second, there is some indication among the replies that the colleges are willing to spend significant amounts of money to meet their faculty personnel needs. Clearly, as recruiting becomes more competitive, it will become more expensive.

And finally, the replies indicate that a few colleges, at least, are doing creative things in this important area. If their experiments prove successful, other colleges may follow the lead.

Toward New Postdoctoral Horizons

An American College of Teachers?

RAYMOND S. MOORE

Has the time arrived for the development of a super-Ph.D. to broaden the horizons of teaching? Or would such a degree only delay and compound our current academic dilemma? Is it possible that the answer does not lie altogether in the changing of the specifications for our degrees but perhaps also in setting up an organization which transcends all degree-granting institutions?

The need to strengthen graduate degrees

For a number of years there has been an increasing awareness of a need to strengthen graduate degrees. This was a concern of the "report of the four deans" to the Association of Graduate Schools in 1957.[1] In recent months this concern has been sharpened in the minds of those involved with teacher education at all levels. Many have noted an implicit relationship between motivation for the degree and subsequent professional performance. Too often both have been wanting. A number of educational conferences in the past year have centered on ways to stimulate livelier and loftier motivation.

When we speak of teachers here, we assume the quality of a teacher who practices scholarship. In the minds of some, the teacher and the scholar or researcher are mutually exclusive. We cannot afford this concept if American education is to maintain its leadership. Every good teacher will be to a greater or lesser degree a researcher, and always a scholar. Otherwise how will he find truth?

However, the glamor often surrounding the research scientist or the medical practitioner as such has sometimes eluded the teacher. Visions of test tubes, the white smock, and the dainty nurse's cap, or of money and prestige, often deprive would-be teachers of the rich experience of day-to-day classroom service. On occasion we even find doctoral candidates thus stirred more by salary scales and position than by the pursuance of excellence in education. The advanced degree then becomes the ending rather than the beginning of a wholesome, creative experience in educational leadership. Whenever vision thus inclines, the profession of teaching declines.

There is reason to believe that, given the challenge, American educators will rise above the cloud of material distractions that sometimes tend to obscure their vision. We have been pleading, but not pointing the way. The typical American does not respond as readily to a plea as to a challenge. Yet, like his European brother, he also appreciates recognition. This question then arises: Is there any reason why we should not hold out tangible recognition and broadening of horizons for postdoctoral scholars and, in so doing, very probably lift the sights of educators at all degree levels?

An academy to meet the need

Our highly successful friends in the medical branches have made noteworthy use of a simple device—the professional

[1] J. Barzun, J. P. Elder, A. R. Gordon, and M. E. Hobbs (Chairman), "Report of the Committee on Policies in Graduate Education" (Mimeographed; New York: Association of Graduate Schools, 1957).

academy, college, or society. This is not a fraternity or club, not simply a national organization. The American College of Surgeons, for example, is to the individual what an accrediting organization is to an institution—and even more. The National Academy of Sciences has made scores of distinguished contributions to the advancement of learning and human welfare.

Such organizations exist for several professional branches. Britain once had them for teachers. Norway, Sweden, France, and others have their academies for a number of disciplines, with varying shades of exclusiveness. Carefully conceived and operated to meet America's peculiar needs, a similar agency may be the instrument to build and dignify further the teaching profession, help it command respect, help it become satisfying to teachers at all levels and attractive to the gifted student in search of a profession. The challenge of the high standards of such an academy or college also should be expected to stimulate in the individual member a drive to higher ethical standards, self-respect, and motivation for excellence.

There may be reason, therefore, to give some attention to several suggestions.

1. That a broadly based committee be convened, with the aid of interested foundations, to study the establishment of an American academy or college of teaching.

2. That participation be set up on a one- or two-stage program: *membership* and/or *fellowship*. The member category would perhaps assume high educational qualification and a minimum successful teaching or other professional educational experience of at least five to seven years at post-master's or at the doctoral level or equivalent. The fellow category would probably be awarded to those who not only had a certain minimum experience at the doctoral level but also had made unusually significant contributions in postdoctoral activity in the advancement of teaching and research or educational administration. Some believe strongly that there should be only one regular type of membership, lest the distinction between two be lost.

3. In certain exceptional cases distinguished educational leaders might be awarded honorary memberships or fellowships, regardless of degree earned.

4. Election to membership in the college (or otherwise-named convention) would assume *and require* continued pursuance of broader horizons of educational leadership in teaching, educational administration, or educational research.

5. Whereas the doctoral graduate usually loses close contact with his alma mater, his interests in an American academy or college of teachers, and the organization's interest in him, would continue strong and as long as he is a member.

6. If the procedure of nomination were followed, nominations would require tact and care. The American College of Dentists, on the one hand, have found secrecy in the nomination of members to be "very important." Personal information may never be obtained from the nominee if the purpose of the information must be divulged. Such information is normally obtained from records of professional institutions, societies, publications, and the like. The American College of Surgeons, on the other hand, accepts applications for membership directly from would-be fellows. It believes that the only secrecy maintained should be that of the identity of those who weigh the eligibility.

7. As a central, noncompulsory convention, the academy could insist on the highest professional and ethical standards for its membership.

8. As with the American College of Surgeons it would not be a democratic institution. Nor would it be dependent on other professional agencies. Rather, its strength and influence would be due largely to the fact of the absolute author-

ity of its board of regents or other governing body. Its life and its power would also derive from its unabashed exclusiveness. The A.C.S. Board of Regents receives its specific authority through its constitution. The regents are elected by a Board of Governors which in turn is elected by its membership, the fellows.

9. It would not concern itself with the economic status of teachers or with educational economics except as they benefit the American student in his preparation for citizenship.

10. It may well be that the course of its mission would require it to breed still other worthwhile organizations. The National Academy of Sciences in this way became the parent of the now famed and fruitful National Research Council.

11. It would avoid the pitfalls which proved the undoing of Britain's Royal Society of Teachers, namely making membership in their register a condition of employment throughout the teaching service.

12. As with the American College of Surgeons it would take no position on government legislation nor maintain any committee on legislation.

13. Nor would it be government-controlled as are many academies on the Continent. It may well be the executive agency, however, for government-financed projects, conventions, awards, and research.

14. It would be expected to make a strong impact on institutional and governmental programs and personnel. For example, the National Academy of Sciences has had a profound influence in such activities as the selection of the Librarian of Congress, advisement to the International Cooperation Administration, assistance to numerous governmental agencies; it works closely with the National Science Foundation, and led in the activities of the International Geophysical Year.

15. Such an organization would clearly foster the idea that a doctoral degree per se does not necessarily qualify an individual for distinction. Rather, it would encourage the continuing pursuance of higher educational ideals and the advancement of educational leadership and service as the making of distinguished educators.

16. It would assume for its purposes that teachers are scholars. In fact it may well be named either "Academy (or College) of Teachers" or "Academy of Scholars."

Tradition, like superstition, is often a barrier to progress. But like leaven, it can be used for good as well as bad. American higher education may yet be too young to be graced with the dignity —or sublimity—of that of the older civilizations. But it might not be too young to step into a new era and in the process to profit by the successes and failures of both our contemporaries and our forbears.

Most honorary academies or similar societies, whether Sweden's Svenska Akademien (elocution and poetry), the famed Académie française, or the venerable American Academy of Arts and Sciences, have certain elements in common: (1) membership is limited sharply by arbitrary number or high achievement or both; (2) election or appointment of new members is effected by vote of the existing membership or through committees which they elect; and (3) qualification is nonpolitical, insofar as possible, but is based on either established professional criteria or distinguished contribution or both.

Some agencies have *junior* or *associate* membership categories in which a prospective fellow may participate as a preliminary to full fellowship. Membership is granted primarily in terms of such criteria as graduation from recognized school, years of supervised experience, passing of specialty boards, and so on.

The *fellowship*, then, lays more stress on distinction in the field.

A suggested framework

No single educator in his right mind would claim that he has the comprehensive answer. That could well be the study of a distinguished agency or committee. But for the sake of specificity it may be appropriate here to sketch a tentative framework which may give some substance to the idea of establishing new horizons and enjoining keener motivation for educational excellence.

Name

Such an organization may be called an American academy, college, society, or institute. For example, an American College of Teachers could well be the parent organization. (We select this simply because the initials F.A.C.T. after a fellow's name may lend themselves to less distraction than F.A.A.T. for academy, F.A.I.T. for institute, or F.A.S.T. for society.) As with the National Academy of Sciences, such a college could be organized by sections based on the various disciplines: agriculture, anthropology, biology, chemistry, education, engineering, English, and so on (although some believe that sectioning might mar the college's unity).

Goals

It may well be the purpose of such an agency to provide for the American people a preparation for citizenship which will enable them to carry out in the noblest manner their destiny as brothers and sisters to the peoples of the world, and, to this end, (1) to preserve and promote America's highest moral, intellectual, and spiritual heritage; (2) to promote and develop new and higher motivation and goals in teaching (and allied professions); (3) to encourage continuity of scholarship, research, leadership, service, and progress in education.

Membership

Membership may consist of one or more kinds—as indicated before. Suggestions are offered below.

Members.—These would likely constitute the large body of participants in the college and would not be limited by numbers. Appointment would be for an indefinite period—for all intents and purposes, permanently. However, each member would be subject to a check periodically to ensure continued high performance. If such periodic evaluation revealed substandard performance, suspension from regular standing would be in order. Nominations would perhaps be made to the appropriate central committee in the manner of other honor societies, for example: (*a*) through a recognized educational institution or similar agency; (*b*) through sponsorship by a specified number of members; (*c*) through sponsorship by a fellow.

Criteria for such recommendation would include among other specifications: (*a*) standard, reputable doctoral preparation (Ph.D., Ed.D., and so on), or, broadly defined, the equivalent (perhaps in the specific competency concerned); (*b*) at least five to seven years postdoctoral experience in the professional field; (*c*) excellence, comprehensiveness, and continuity in teaching, research, administration, or other appropriate educational service or leadership. Examinations would not be in order; nor would specific scholarship levels as determined by transcripts be considered so important as the individual's contribution to the profession.

Fellows.—These might be limited *by number* in each special field (mathematics, English, and so on) and would be permanent (although some experienced scholars would avoid such categories or sections, preferring to unite rather than sectionalize). They would be elected from the members by vote of convention of the fellows. The number

in the fellowship category would be in proportion to the number in the profession concerned. Criteria for election to this body would presume distinguished contribution to the advancement of education.

Honorary.—There might well be individuals who would be honored for their contributions with either honorary fellowship or membership, even though they did not meet professional or other qualifications.

Any membership vote would likely require a four-fifths (as with the American Dental Association) or similar vote of the controlling board. But it would avoid requirement of unanimity which might be an invitation to blackballing.

Publications

Journals, monographs, and other publications are likely sounding boards for such an organization. They would serve both the membership and the profession at large. The *Journal of the American College of Dentists* is an example of enlightened editorial policy. The ACD has a number of publications which in no way interfere with, but rather encourage and support, other dental journals. The National Academy of Sciences and its National Research Council sponsor many scholarly publications in a broad variety of areas.

Pledge and code of ethics

An appropriate pledge, oath, or affirmation would doubtless be framed to be administered with due solemnity. This would be an outgrowth of a carefully wrought code of ethics.

Discipline

Provision for expulsion of members or fellows (other than for unwillingness or inability to continue the pursuance of creative research, scholarship, or leadership in education which would result in automatic suspension) would be made. The American College of Surgeons specifies such violations of its pledge as (1) conviction of a felony or crime involving moral turpitude; (2) suspension or termination of the right to practice; (3) improper financial dealings; and so on.

Finances

It is anticipated that interested foundations would give the basic organization its start. Membership fees for members would likely be in order. But it is anticipated that neither fellows nor those in honorary categories would be taxed, provided there were both membership and fellowship categories.

The physical operation of such an agency almost certainly should not be wholly dependent on membership dues, however. Such financial dependence could lead to a relaxation of standards if a membership "drive" were viewed as essential to the underwriting of an expanding program.

Conclusion

Many teaching professionals have shied from the idea of glamorizing the profession because, they say, "it should be able to stand on its own feet." This, however, is a day when the most articulate sells his cause the best. If we are to compete for the finest minds against such as the engineers, industrial scientists, and the medical and legal professions, we may have to take a radical turn from some traditional American points of view. Many a teacher, many a student, is waiting for a more distinctive challenge from the teaching profession. Is it possible that an American College of Teachers might be one of the answers?

New Priorities in Research

DAVID D. HENRY

The American people may be said to be research-minded. The average person is impressed by research data, and many advertisements of new products lean heavily upon statistical reporting. "Progress is our most important product," with research illustrations, is the theme used to create institutional good will by one major American business organization.

Along with a ready acceptance of the values of research to business and industry, people have great expectations from research in medicine and in public health. The "miracle" drugs have raised the hopes of millions for improved prevention and cure of disease. New techniques in surgery, the development of antibiotics and new vaccines, the almost unbelievable discoveries of help for specific illnesses—such as polio, cholera, typhus—these facts of science and scientific achievement are deep in the consciousness of people everywhere, and they induce favorable attitudes toward research.

In still another area, popular ideas encourage support of research. Even if talk of a "push-button" war seems fantastic, we are building our national defense so that we may compete with space rockets and intercontinental missiles. Science, invention, and research have become the chief instruments of national security, and people not only take this point for granted but insist upon progress to an almost unreasonable degree.

Closer to everyday living, the benefits of research in the economy of our cities and states are assumed. The prevention of diseases among plants, the formulae for increased production from our soil, the industrial uses of agricultural products, the methods of the distribution system for products of all kinds, highway safety, new procedures for organization and management—almost every subject which has a bearing upon our health, safety, productivity, prosperity, is related to research activity, past and present.

The search for the new and the adaptation of the old has been the key to the dynamics of American national growth.

A demonstration of what has happened in research expansion may be seen in the statistics describing expenditures in industrial research.

According to the United States Department of Commerce, industry spending on research and development activities expanded from $430 million in 1945 to $4.25 billion in 1957. The expenditures from both government and business are estimated today to be in the neighborhood of $10 billion.[1]

The increase is even more dramatic over a thirty-year span. Thirty years ago our national spending on research and development was $170 million or two-tenths of 1 percent of a gross national product of $91 billion. In 1957 we spent 2.3 percent of the gross national product of $434 billion (or $10 billion) for these purposes.[2]

Apart from these impressive statistics, from our own personal experience we may recall that twenty years ago industrial research was a marginal operation in most companies. A. H. Raskin, of

[1] AP Business News Analyst, Sam Dawson.

[2] Nathan M. Pusey, address before the Economic Club of New York, quoted in Urbana, Ill., *Courier*, June 17, 1959.

the *New York Times* has observed that

> in only a few was there any systematic assault on the frontiers of knowledge; research departments were tucked away in corners of factories; funds and facilities for long-term studies were rarely available; complex assignments were farmed out to colleges or universities. Where large numbers of engineers were kept for development work, they often sat in regimented ranks in block-long lofts. Today industrial research is conducted in centers that have more kinship to a graduate campus than to an industrial plant. Bright young Ph.D.'s in physics, chemistry and mathematics hold skull-sessions with seasoned colleagues. Abstruse figures are drawn on blackboards. Ideas fly through the pipe smoke. Atom smashers, spectrometers, electron microscopes, computers, furnaces—all of these are to be found in corporate laboratories.[3]

To illustrate his description, Mr. Raskin cites the impressive technical center at General Motors, with its 320-acre campus and its twenty-five buildings, and the huge laboratories maintained by the General Electric and the Bell Telephone Companies. Mr. Raskin also cites the United States Steel program as illustrative of the new trend.

While all of this growth in research and development is impressive, there are two vital considerations which justify my topic, "New Priorities in Research." The phrasing is selected, not to minimize the importance and predominance of that which I have described, but to point out two weaknesses which must be corrected if the past trends of industrial and economic growth are to continue.

The first problem arises from the unevenness of the research activity within industry.

In his book, *The Affluent Society,* Professor John K. Galbraith calls attention to the fact that well-financed and comprehensive research-and-development work in industry exists in a relatively few firms which are comparatively large, in oil, metallurgy, automobiles, chemicals, rubber, and heavy engineering. In many industries where the firms are numerous and small, he points out, such as coal mining, home construction, clothing manufacture, and the natural-fiber textile and the service industries, "the investment in innovation is negligible."

> No firm is large enough to afford it on an appreciable scale; there is real question as to whether it is worth while for such firms. Unlike agriculture, where innovation is extensively supported by the federal and state governments, there is little or no publicly financed research and development. Yet the absence of investment in innovation in these industries, much though we value its fruits in other industries in which it occurs, excites not the slightest attention. We attach profound importance to the fact that some industries advance. We attach almost no importance to the fact that others do not.
>
> It is easy to overlook the absence of appreciable advance in an industry. Inventions that are not made, like babies that are not born, are rarely missed. In the absence of new developments, old ones may seem very impressive for quite a long while. Until the combine appeared, the self-binder had been the mechanical marvel of the farm machinery industry for forty years. But if we were serious about increased output, we would be much more searching in these matters. Certainly we would regard the absence of investment in innovation in an industry as intolerable. But in fact large numbers of industries make little or no such investment, have little or none made on their behalf, and we are quite untroubled.[4]

A second weakness in our present level in research and development is the comparatively small proportion of effort and finance going into so-called basic research.

I want to emphasize that I do not be-

[3] *New York Times Magazine,* May 13, 1956, p. 15.

[4] Galbraith, *The Affluent Society* (Boston, Mass.: Houghton Mifflin Co., 1958), pp. 126–27.

lieve there is much point in debating the question of which is more important, basic or applied research. Often the distinguishing line is hard to find. Many times so-called basic research originates in the observations in short-range projects. When it is acknowledged that application is as important as the original idea in any new development and that the original idea is useless without application, an argument concerning which is more important is meaningless. The reverse is also true: without new basic ideas, applications will be limited. This is true in science, in engineering, in public health, in the social sciences, even in the humanities and in the arts.

Accepting the thesis that basic research is a part of the whole of progress in research and development, we have cause to be concerned about the present proportions of the several parts.

While the total sums spent on research and development have increased many times in thirty years, the percent for basic research has declined from 20 to 10 percent of the whole.[5]

Why is this fact ominous? According to Professor N. J. Berrill of McGill University, present-day science is an enormous superstructure resting on deeply sunken pillars, representing the work of individuals.[6] Nothing was further from the minds of a small group of atomic physicists of the 1930's than the release of atomic energy for nuclear war.

To illustrate the point, President Norman Auburn of the University of Akron recently asked, how much longer can we rely on the know-how and inventive genius of the European scientists?

> We well remember that we are indebted to German, Italian and Danish scientists for the development of the atom bomb, and more recently of rockets and missiles. Where would we be today if Wernher von Braun, Edward Teller or Ernest Steinhoff had decided to settle in another country? Where would we be if the Army's "Operation Paperclip," designed to bring West European scientists to this country, had failed?[7]

Accepting the judgment of the students and observers of science progress in this country that basic research is the foundation for all research and development and that we are deficient in the scope and support of basic research in industry and government, I come to another point of concern which should influence our priorities of attention: the role of our colleges and universities in basic research.

> Much of the basic research, historically, has been undertaken on the university campus. This research, so valuable in developing new products and processes, must be maintained if the future progress of both society and industry is to be promoted adequately.[8]

The university has three contributions to make to the research of the nation. First, it trains the men and women who fill the positions in business and industrial research and who become the teachers of scientists and research workers. Second, in the teaching process, the university develops research outcomes which contribute to the bank of ideas for future development. Third, the faculties constitute a pool of advisory and consultative talent for business and industrial life.

The men and women in our colleges and universities who train others to do research and who themselves perform research are one of the vital resources of the nation. In a recent report of the American Council of Learned Societies, we have this statement:

[5] N. J. Berrill, "Crisis in Basic Research," *Think*, September 1959, p. 34.

[6] *Loc. cit.*

[7] Auburn, "Life, Liberty, and Higher Learning," *American Alumni Council News*, September 1958, p. 17.

[8] J. Whitney Bunting, "Industry and the Graduate School," THE EDUCATIONAL RECORD, October 1959, p. 302.

> Behind all . . . men of affairs, whether they realize it or not, stands the work of a relatively small number of scholars. If these are in short supply, the research which produces new ideas and new understanding will decline, but the funds now available for basic research in this country are minute in comparison to the amounts devoted to exploiting its applications. This is as true in science as in the social sciences and humanities. If those who are capable of advancing the frontiers of knowledge are supported only in their teaching and training of others, research will suffer and, eventually, teaching and training will suffer as well. It is not enough to transmit and apply our present store of learning.[9]

In measuring the future of higher education in America, there is a present danger that the research function of colleges and universities will be overlooked. The unrealized idea is not measured. The restricted opportunity is not felt. In the trend line of the future, however, they will be missed. Missiles and rockets would have been impossible without the scientific ideas which gave them birth. Cancer is being fought in the biochemistry laboratories; radio-astronomy has become an arm of space technology; in short, university research today is on the frontier of the new ideas in science, sociology, and engineering. Basic research is not alone identified with large organizations and huge installations. The individual teacher and student with an inquiring mind, at work in a campus laboratory, may also be the source of the new idea.

Today less than a hundred institutions in the country have comprehensive programs in basic research. Colleges and universities do about half the basic research in this country, in dollar terms, and considerably more than half in terms of work performed. About 97 percent of all research (in terms of dollars) in colleges and universities is done in 173 of the larger institutions.[10] Over one-half of the Ph.D.'s of the nation are awarded by the 93 land-grant colleges and state universities.

President Pusey of Harvard has pointed out that probably nine out of every ten major books of chemistry, physics, or biology, at every level, come from universities. "Thus despite the tremendous growth of American industrial research it is the university which also plays the major role in generalizing, synthesizing and disseminating scientific knowledge."[11]

The formula of needs in university research is simple. The universities need space, they need men, and they need superior students. Many federal grants to the universities today, for example, take no account of the fact that the work will have to be done in laboratories which are often outmoded, outworn, and obsolete. Scholarships are granted for young people to work with professors who are underpaid. If the universities are to continue as important sources of basic research, their people must have a place to work, must have the equipment to do the job, must have superior students, and must have a standard of living comparable with that of their peers. These points are so elementary, they ought not to require mention; yet, there is not a university in the country which would certify that its needs in these regards are being adequately measured, let alone filled. Dr. James Killian, chairman of the Corporation of the Massachusetts Institute of Technology and former science adviser to the President of the United States, supports this point of view:

> We have a few centers of great distinction—as distinguished as any to be found in the world—but we have too few of these and only a handful that excel in more than

[9] *Annual Report, 1957–1958*, p. 5.

[10] American Association of Land-Grant Colleges and State Universities, *Circular Letter* No. 23, Dec. 3, 1957.

[11] Pusey, *loc. cit.*

one field of science. We need more top-flight graduate schools of science with more top-flight departments. We should have twice as many first-rate graduate schools of engineering as we now have. At the last count we were producing only about 650 doctor's degrees in engineering each year, and this is not enough.[12]

Since educated manpower and new knowledge are indispensible to the proper development of the business enterprise, says J. Whitney Bunting of General Electric, the present situation requires "a proper understanding of the role of graduate education in industrial and business progress and . . . a re-evaluation of relations policies that may not presently reflect the true interest of business in higher education." [13]

What must be done to change the priorities, to emphasize the contribution of the universities to research activity in this country?

First, the total salary structure for the teaching profession must be strengthened, so that universities are competitive with other professions in holding the research scholar.

Second, more money must be spent for research activity. Legislatures must be encouraged to consider the research function on a par with the instruction function. Donors, corporate and individual, must be encouraged to give more money for research.

Third, research grants to universities should be less restricted, whether they come from the Federal Government, the state government, foundations, or industrial and business organizations.

The bulk of new support for research in recent years has been for specific projects, projects sharply defined, with objectives specifically limited. This approach has governed most of the new support that has come from government, foundations, and corporations. We are afflicted with "projectitis." The universities are being influenced to modify their historic role as centers of free inquiry to centers of inquiry on subjects for which they can get funds. There is nothing wrong with project research as long as adequate support is given to the scholar in his search for new knowledge wherever his instincts, interests, and abilities lead him rather than where the dollars he can get will permit him to go.

Fourth, gifts and grants for space and equipment and continuing expenses of the institution must be regarded as important as fellowships, prizes, and awards. The institution must have unrestricted help in meeting its total obligations and not be expected to carry the overhead of a project or grant.

Fifth, the place of the research teacher in society must be much more broadly understood if we are to attract to the profession the talented, able young men and women who will become the teachers of tomorrow.

Sixth, the relationship between the research function of higher education and business advancement must be given greater public display by business leaders and the interpreters of business activity.[14] An example may be taken from data reported by the Association of American Railroads on "Research and Estimated Savings Resulting," showing that since 1914 the University of Illinois has received $891,000 for work in this field, and as a result railroads have saved $240 million with savings continuing at the rate of over $13 million each year. This is a 270-fold return on costs with a 140 percent continuing annual dividend.

In a recent report of a national com-

[12] From remarks of Dr. Killian to the National Press Club, Washington, D.C., July 7, 1959, quoted in American Association of Land-Grant Colleges and State Universities, *Circular Letter* No. 16, July 22, 1959, p. 12.

[13] Bunting, *op. cit.*, p. 301.

[14] Some practical ways for corporations to reflect this attitude in their gifts and grants to universities are outlined by J. Whitney Bunting, *op. cit.*, pp. 301–11.

mission, entitled *The Efficiency of Freedom*, we have the statement:

> It is important to recognize a principle implicit here: Institutions of higher learning . . . serve both the end of knowledge itself, without regard for its immediate necessity, and the practical needs of the community. Thus, the importance of the colleges and universities to society can hardly be overemphasized. Without continuing research and a steady outpouring of graduates from these schools, the scientific and humane achievements of American civilization would soon perish.[15]

From industrial production to national defense, from the cultural behavior of communities to the conservation of the public health, the basic work in training for research and in research achievement are the responsibility of a too small percentage of institutions. The number must be enlarged and those now carrying on must be strengthened.

The opportunities are so great in the future for research that "the outcomes should be measured," said Dr. W. O. Fenn of the University of Rochester, "in kiloman-centuries rather than man-hours. The far reaching effects of research tomorrow require a special kind of measure." [16] They also require a reappraisal of the priorities in our support, our attention, and our understanding.

Unless the supply line of personnel and ideas from our colleges and universities keeps pace with the development in the economic life of our states and of the nation, the ultimate growth in the economy will be less than otherwise would be possible. Higher education is the source of supply of trained people, of specialists for management and operation, and of research for the advancement of basic knowledge and the application of that knowledge through new processes and new procedures.

It is a great problem in a growing and prosperous nation to have the public understand the relationship between education and its prosperity, even its security. We cannot have the one without the other. There cannot be an increase in income or an increase in the capital structure of business unless these increases are accompanied by an increase in the costs of government and philanthropy which are related to that activity.

[15] *The Efficiency of Freedom:* Report of the Committee on Government and Higher Education, Milton S. Eisenhower (chairman), (Baltimore, Md: Johns Hopkins Press, 1959), p. 3.

[16] Fenn, "Men in Orbit," address at the dedication of Burrill Hall, University of Illinois, Sept. 8, 1959.

Research Work of the Teaching Staff of Higher Educational Institutions in the U.S.S.R.

CONSTANTINE G. KRYPTON

THE years 1956–59 were characterized by efforts on the part of the Soviet Government to make full use of teaching personnel of higher educational institutions in research work. This aim posed two problems: first, it was necessary to raise the standards of qualification of the personnel; second, there was need of organization of the research work itself and central direction from Moscow.[1]

Academic titles and academic degrees

Let us examine the first problem. Reorganization of Soviet higher educational institutions necessitated a return to the academic degrees and titles which had been abolished immediately after the October Revolution.[2] By a decree of the Council of People's Commissars issued on January 13, 1934, two degrees were introduced, that of Candidate of Science and that of Doctor of Science.[3] The purpose of these degrees was to provide certification of each person in his particular discipline, to indicate the extent of his knowledge and his ability in research work.[4] The candidate's dissertation "must exhibit general theoretical knowledge in his particular discipline, specialized knowledge of the problems studied in his dissertation and ability for original scientific or scholarly research."[5] The doctoral thesis "must present original research work in the solution or general theoretical study of new problems of scientific or scholarly interest."[6]

Much attention was given to the preparation of academic personnel.[7] A three-year program of graduate study (*aspirantura*) to prepare candidates was inaugurated at higher educational and research institutes where there was a sufficient number of persons with an appropriate scientific background. Accepted into this program were persons who had had higher education and who had passed entrance examinations.[8]

Preparation for the degree of doctor was somewhat different. The decree of 1934 stressed serious scholarly research; according to the terms of this decree the doctoral thesis was to be written independently. Most people did write the doctoral thesis independently. The gov-

[1] The direction of universities and technical, medical, and pedagogical institutes, and the like, is centralized in Moscow under the Central Committee of the Communist Party and the Ministry of Higher Education.

[2] K. T. Galkin, "Iz istorii attestatsii nauchno-pedagogicheskikh kadrov" (On the history of the certification of scientific-pedagogic personnel), *Vestnik vysshei shkoly* (Herald of the higher school), No. 9, 1957, p. 44; I. J. Braslavskii, "Sorokalietiie piervogo dekrieta o vysshem obrazovanii" (Forty years after the first decree on higher education), *Vestnik vysshei shkoly*, No. 8, 1958, p. 76.

[3] *Sobraniie Zakonov SSSR, 1934* (Collection of statutes of the U.S.S.R.), No. 8, art. 30, item 1.

[4] *Ibid.*, item 3. These same degrees were introduced in research institutes also.

[5] *Ibid.*, item 5.

[6] *Ibid.*, item 6.

[7] See K. T. Galkin, *Vyssheie obrazovaniie i podgotovka nauchnykh kadrov SSSR* (Higher education and the training of scientific personnel of the U.S.S.R.), (Moscow: "Sovetskaya Nauka," 1958).

[8] *Aspirantura vysshikh uchebnykh zavedenii SSSR: Spravochnik* (Graduate program in the institutions of higher learning in the U.S.S.R.: a handbook), (Moscow: "Sovetskaya Nauka," 1949).

ernment, however, was eager to prepare a great number of doctors within the shortest possible time. With this end in view, it created not only the *aspirantura* but also the *doctorantura* or program of preparation for the doctoral degree. This program was offered at the Soviet Academy of Sciences, the Academy of Medicine, and the Russian Academy of Pedagogy and at a few other institutions. In order to apply for admission to the *doctorantura* it was necessary to have the degree of Candidate of Science and to submit an outline of the doctoral thesis and of previous scholarly work and inventions.[9]

Academic degrees are conferred after a successful public defense of the thesis before the academic councils of higher educational institutions which possess this authority.[10] In addition to these higher educational institutions, many research institutes—in particular those of the Soviet Academy of Sciences—possess the authority to confer such degrees.[11] The conferring of the academic degree of Doctor of Science requires the subsequent approval of the Higher Certifying Commission of the Ministry of Higher Education.[12] Both before and after World War II the Higher Certifying Commission refused its approval of degrees already conferred by the academic councils of various institutions. Thus, there were frequent cases of interference on the part of the commission, due to particular complaints and frequent revocation of the degrees of the candidates. This was particularly pronounced after the war. During the period 1947–56 alone, 956 decisions were nullified.[13]

Academic titles were introduced along with academic degrees. Academic titles indicate the nature of the academic function performed.[14] The following academic titles for higher educational institutions were established: assistant, docent (or associate professor), and professor.[15]

The title of assistant was accorded to persons who were graduated from a higher educational institution and who had sufficient qualification for teaching under the guidance of a professor or an associate professor (docent).[16] The title of docent was accorded to persons having an academic degree of Candidate of Science and independently conducting research work or teaching.[17] The title of professor was accorded to persons having the degree of Doctor of Science who held important teaching assignments and supervised research in higher educational institutions.

The titles of docent and professor were conferred by the Higher Certifying Commission of the Ministry of Higher Education on the basis of the decisions of the academic councils of higher educational institutions.[18]

[9] "Doktorant," *Bolshaya sovetskaya entsiklopediya* (Great soviet encyclopedia), (2d ed.; Moscow: 1952), XV, 4.

[10] The number of professors with higher degrees and published books at a given institution determines whether or not the institution shall have the authority to conduct such public defenses.

[11] Decree of the Council of People's Commissars, Jan. 13, 1934, point 11.

[12] *Ibid.*, point 12.

[13] Galkin, "Iz istorii attestatsii nauchno-pedagogicheskikh kadrov," p. 47.

[14] Decree of the Council of People's Commissars, Jan. 13, 1934, point 3.

[15] *Ibid.*, point 2. Together with the three academic titles, four academic positions were established, three of which coincide with the designations of the academic titles, while the fourth is that of a simple instructor (senior and junior).

[16] *Ibid.*, point 7.

[17] *Ibid.*, point 8.

[18] *Ibid.*, point 9. This order applied to persons who were beginning to teach. For the certification of those persons who were already teaching in higher educational institutions, additional rules were issued. According to these rules, the academic titles of professor and docent were to be conferred on the basis of published works. In very rare cases, academic

Loss of research centers (nauchnyie shkoly)

Since 1934 the order referring to the granting of degrees has undergone some minor changes. Still more opinions were voiced about the necessity of raising the standards for the conferring of academic titles.[19]

In 1957 the question was openly raised about the "good old days" when every Russian university and institute was a center not only of scholarly activity but also of research. The Vice-Minister of Higher Education, J. V. Rumiantsev, himself spoke about the necessity of a "rebirth of research centers which were once the glory of higher educational institutions." [20]

> We have research centers which play an important role in the life of the country, but to our regret there are few high-level research centers in the large institutions of higher education . . . our general task and the immediate task of all directors and academic councils of such institutions is to restore the centers of scholarly research.[21]

There were three main reasons for the loss of research centers and for the conversions of a part of the institutes into exclusively educational centers: [22] (1) the opening of a large number of new institutes (during the academic year 1914–15 the total number of higher educational institutions within the contemporary borders of the U.S.S.R. was 105; during the academic year 1956–57 the total reached 767 [23]); (2) the employment of teachers at two or more higher educational institutions, the so-called practice of *sovmestitel'stvo* (multiple jobholding); and (3) doctoral institutes.

So great was the expansion of the number of higher educational institutions after thirty years that it was no longer professors with doctorates but rather candidates or docents who played the most important role in many institutions.

The second reason, multiple employment of teachers, was connected with the growth of the number of higher educational institutions and the shortage not only of full professors but even of regular instructors. The war with Germany made the situation still worse. According to official statistics, by the end of the war the number of docents diminished by 8.3 percent and that of assistants and instructors by 40 percent.[24]

The preparation of academic personnel fell off drastically during the war. The number of graduate students decreased from 12,000 in 1941 to between 3,000 and 4,000.[25]

Under these conditions, many people were engaged exclusively in teaching.[26] Research was forgotten. This situation is well understood by the Soviet Government. The decree of the Council of Ministers of the U.S.S.R. "about the means of improving scholarly research work in higher educational institutions" states: "It is no secret that some teachers pay too much attention to pedagogy by hold-

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degrees, as opposed to titles, were granted. As a general rule, these degrees were granted upon successful defense of the thesis to those persons who already enjoyed the corresponding title.

[19] Speech of A. T. Pankratovoi, "XX c'ezd kommunisticheskoi partii sovietskogo soiuza" (Twentieth congress of the Communist party of the Soviet Union), (Stenographic report; Moscow: 1956), pp. 622–23.

[20] J. V. Rumiantsev, "Bol'she tvorchestva i initsiativy v nauchnoi dieiatel'nosti" (More work and initiative in scientific activities), *Vestnik vysshei shkoly*, No. 3, 1957, p. 8.

[21] *Ibid.*, p. 8.

[22] In the field of the social sciences there is an additional reason—the problem of ideology and policy. This is a subject for special consideration, and we will not discuss it in this article.

[23] M. M. Deineko, *40 liet narodnogo obrazovaniia v SSSR* (Forty years of public education in the U.S.S.R.), (Moscow: 1957), p. 264.

[24] *Great Soviet Encyclopedia* (one volume; Moscow: 1947), p. 1240.

[25] *Ibid.*, p. 1241.

[26] Difficult living conditions explain why many people were eager to supplement their earnings, especially those people with children.

ing more than one teaching position and thus do not have sufficient time to devote to research activities." [27]

The opening of a greater number of higher educational institutions as required by the Soviet Government, the shortage of full professors and even of instructors, the inevitable multiple employment—all these problems were linked. There was only one thing which the Soviet Government could do—reduce the number of higher educational institutions. This may be seen from the following data:

Academic Year	*No. of Institutions*
1940–41	817
1950–51	880
1956–57	767[28]

Altogether different was the situation of the doctoral program. In this area it is possible to speak of a mistake in Soviet legislation. The creation of the doctoral program appeared from the very beginning to be in contradiction to the basic ideas of Soviet higher education and, in particular, with the law of 1934. This law had required of the doctor the ability to do original work on a high theoretical level. Some of those persons who had completed the doctoral program during the years between 1934 and 1956 did not meet these requirements. Nevertheless, since they had formal certification of their original work, they had been appointed to key academic positions (department chairmanships, and so on). This was the situation described by the chairman of the certifying commission, V. Nekrasov, in 1956.[29]

In addition to the three reasons cited above, there remains the problem of the organization of the research itself. I shall speak about this later.

Measures for raising qualifications required of teaching personnel, 1956-59

In 1956 the problem of raising the qualifications of the teaching staff of higher educational institutions was made the object of a special study of the Central Committee of the Communist Party and the Council of Ministers of the U.S.S.R. A decree was issued concerning the means of improving the training and certification of research and teaching personnel.[30] Other instructions followed. From this it is possible to draw a conclusion: The Soviet Government decided to take decisive measures for the restoration and development of research centers in all, or at least in the majority, of the higher educational institutions in the country.

The system of conferring the doctoral degree was one of the first problems attacked in this radical reorganization. The preparation of the doctorate within academic institutions was forbidden.[31] "If it is demanded of the candidate that his paper contain original scientific and scholarly conclusions, then the doctoral dissertation must include solutions of fresh scientific problems, enriching theory and practice," states an editorial of *Izvestiya* commenting on the decrees of the CC CPSU and the Council of Ministers of the U.S.S.R.[32] "A scholar raised in a hot-house among special

[27] "Za dal'neisheie razvitiie nauchnoi raboty v vysshei shkole" (For the further development of scientific work in the higher schools), editorial, *Vestnik vysshei shkoly*, No. 5, 1956.

[28] Deineko, *op. cit.*, p. 264.

[29] Nekrasov, "Prisuzhdieniie uchenoi stiepenipriznaniie nauchnoi kvalifikatsii" (The conferring of degrees as recognition of academic qualifications), *Vestnik vysshei shkoly*, No. 11, 1956, p. 6.

[30] "O merakh po uluchshieniiu podgotovki i attestatsii nauchnykh i pedagogicheskikh kadrov" (Concerning measures for the improvement of the training and certification of research and teaching personnel), *Vestnik vysshei shkoly*, No. 10, 1956, pp. 42–43.

[31] Admission of students to the *doktorantura* ceased on Sept. 1, 1956; *ibid.*, p. 42.

[32] "Za korennoie uluchsheniie podgotovki nauchnykh kadrov" (Toward radical improvements in training research personnel), *Izvestiya*, No. 211, Sept. 15, 1956.

groups of Doctorants can scarcely make an original contribution to science and scholarship," we find in the same article.

Along with the abolishing of the doctoral schools the conditions for conducting the defense of the dissertation were changed both for the candidate's and the doctoral degree. It is necessary to say that the original idea of the reform was to acquaint fully with the text of the dissertation, not only the members of the academic council of the institution where the defense was to take place, but also representatives of the scholarly world in general and specialists in the field. For this purpose an announcement was published in the central newspapers inviting all who so desired to take part in the discussion and indicating places where the manuscript might be obtained.

In 1956 more stringent regulations were adopted. Dissertations could be accepted only after their publication in the form of monographs or articles. In addition to this, prior to the defense it was necessary to publish a résumé (*avtoreferat*) of the dissertation.[33] After September 1, 1958, the number of copies of this summary of the dissertation was increased to 150.[34]

As a dissertation one might present a good published textbook for the higher schools, one which reflected independent scholarly work on the part of the candidate.[35]

The work of those institutions which had the authority to confer degrees was sharply criticized during the period 1956–58.

We find not a few academic councils of the higher educational institutions and research centers which irresponsibly granted degrees for work which had no theoretical or practical importance.[36]

The number of higher educational institutions which had the right to confer higher degrees was limited.[37] After January 1958 a rule was introduced: the council may begin discussion about the conferral of the degree only if there is a quorum of two-thirds of its accredited members. A decision is reached if not less than two-thirds of those casting ballots vote their agreement.[38]

In a similar way the work of the Higher Certifying Commission was described as unsatisfactory. The members of this commission demanded that it improve its supervision over the activities of the institutions authorized to confer academic degrees.[39]

Research work

The raising of the level of the dissertations and the elimination of multiple employment are, of course, necessary steps in the improvement of the research work of the teaching staffs of higher educational institutions. There remains, however, the problem of the organization of the research work itself.

The Soviet system of research work is characterized by extraordinary centralization and, in particular, by planning.

The Soviet Government is interested in the research work of the teaching staffs not only for academic but also for practical economic reasons. A recent law calls for increasing the role of higher educational institutions in conducting scientific research which is of theoretical importance and practical significance in the

[33] "Novaia instruktsiia o poriadke prisuzhdieniia uchienykh stiepenei i prisvoiennia uchienykh zvanii" (New instructions on the procedure of awarding degrees and conferring titles), *Vestnik vysshei shkoly*, No. 4, 1957, p. 80.

[34] "V vysshei attestatsionnoi komissii" (On the Higher Certifying Commission), *Vestnik vysshei shkoly*, No. 5, 1958, p. 86.

[35] "Novaia instruktsiia o poriadke prisuzhdieniia uchienykh stiepenei. . . ," p. 80.

[36] "Za korennoie uluchsheniie. . ."

[37] "O merakh po uluchsheniiu. . ."

[38] "V vysshei attestatsionnoi komissii" (On the Higher Certifying Commission), *Vestnik vysshei shkoly*, No. 1, 1958, p. 67.

[39] "Za korennoie uluchsheniie. . ."

development of the national economy, science, and culture.[40]

Besides the research institutes, the teaching staffs of higher educational institutions must undertake tasks for the Soviet Government. According to the statistics of the Ministry of Higher Education of the U.S.S.R., in 1951, for example, higher educational institutions worked on over four hundred projects connected with the development of enterprises. Many polytechnical, machine construction, and other institutes took part as well.[41]

In accordance with these tasks, regulations were established for the higher educational institutions. In this context it is interesting to note the Rules for Departments (*kafiedrakh*) approved by the VKVTO [42] on May 20, 1933. In this document the tasks of the department are described as not merely the organization and direction of a course of instruction in a particular discipline but also applied research for industry and agriculture.[43]

Three years later a decree of the Council of People's Commissars of the U.S.S.R. and the Central Committee of the Communist Party stated that without research work it is impossible to train specialists in higher educational institutions.[44] After this decree the heads of the departments established as a rule for members of their departments individual plans of research work.[45] Work done according to this plan is subject to inspection. This system, however, encountered a great obstacle—the creative nature of research work.

For many people the topics imposed upon them proved interesting and they were able to work with real enthusiasm. Many other people, however, found themselves torn between individual scholarly interests and those topics imposed from above. Besides, the request for "the application of the results of research work to production" strayed rather far from the realm of pure science. Moreover, the annoyances of deadlines and supervision did not create a favorable atmosphere for research work. The results of this situation appeared far-reaching. This was stated by the Ministry of Higher Education itself. According to its sources of information, during 1957 only one-third of all professors in higher educational institutions worked on scientific projects furnished by government agencies.[46] The greater number did not take part, and thus the situation had stabilized.[47]

Measures for improving research work (1956-59)

As efforts were being made to raise the standards for the dissertation, simultaneous measures were being taken for the improvement of the research work of the teaching staffs of higher educational institutions. The Soviet authorities based the solution of this problem on two premises: (1) good salaries in higher educational institutions; and (2) adequate staffs of teaching personnel. The salary of a person working in a single institution

[40] "Zakon ob ykreplienii svazi shkol s zhizn'iu i dal'nieishem razvitii sistiemy narodnogo obrazovaniia v SSSR" (Law on the strengthening of the ties of the schools with life and on the further development of the system of public education in the U.S.S.R.), art. 37, adopted by the Supreme Soviet of the U.S.S.R., Dec. 24, 1958, *Izvestiya*, Dec. 25, 1958, p. 2.

[41] V. Stolietov (Minister of Higher Education of the U.S.S.R.), "Nasushnaia zadacha vysshei shkoly" (Urgent problems of higher education), *Pravda*, No. 48, Feb. 17, 1953, p. 2.

[42] Vsesoyonzny komitet po vysshemy technicheskomy obrazovaniyoo (All-Union Committee for Higher Technical Education). This committee was established in 1932, and it supervised technical and agricultural institutes of higher education until 1936.

[43] Bulletin of the VKVTO, Nos. 7–8, 1933.

[44] *Pravda*, June 24, 1936, p. 1.

[45] *Great Soviet Encyclopedia* (one volume; Moscow: 1947), p. 1240.

[46] Rumiantsev, *op. cit.*, p. 6.

[47] *Loc. cit.*

is sufficient to ensure a high standard of living.[48]

The higher schools have at the present time enough qualified personnel to make practical the abandonment of the system of multiple employment.[49] Under these new conditions Soviet legislation is changing the regulations within the higher educational institutions. First of all, multiple employment is prohibited. Every professor, docent, and instructor may hold a steady post in only one higher educational institution.[50] The system of personnel management which had been in effect since 1937 has been abolished. This system had established a six-hour working day: from two and a quarter to three and a half hours of the day were to be devoted to various sorts of teaching work, depending upon the teacher's academic title. Teaching work included lectures, seminars, consultation, and the like. The remaining hours were to be devoted to research work.

In 1956 the government abolished the fixed norms of teaching work and at the same time increased the authority of directors (rectors) in the management of the teaching staff. The director can set individual norms of teaching work for different professors and teachers within the framework of the six-hour day.[51] An individual schedule is prepared for every professor and teacher for the coming academic year. One group of teachers might be employed in teaching work, another in research work, and a third in the preparation of textbooks. The following year this plan may be altered, and the director may change the individual plan of every teacher.[52] The main purpose of this new system is to intensify the research work of the teaching staff. It is very interesting to note that, while the government frowns upon the employment of a teacher in more than one higher educational institution, it not only allows but actively encourages simultaneous employment of teachers in noneducational institutions such as industrial institutions and even research enterprises.[53]

In addition to this measure there was established a new central organ, the Scientific-Technical Council (*Nauchno-Teknicheskii Soviet*). The members of this council are selected from scholars and representatives of branches of the national economy. Its purpose is to administer the plans of the most important research projects.[54]

Summary

All the recent activities of the Soviet Government were concentrated on two problems—academic degrees and research work.

Knowledge of the history of Soviet higher education particularly during the period of reform gives us reason to believe that the new system of accreditation of academic degrees gives good results. The level of young Soviet scholars will be even higher than it has been in the past. This does not obviate the problem, however, of improving the research work of the teaching staffs of higher educational institutions. The solution of this problem, as we have seen, is based on two premises—adequate salaries and a sufficient number of teachers. The salary of the teaching staff of higher educational institutions is really high in comparison with other professions. Nevertheless, the

[48] A. A. Abramova and E. I. Voilenko, "Ob oplate truda professorsko-prepodavatel'skogo sostava vysshikh uchiebnykh zavedienii" (Concerning wages for the work of the professorial-teaching staffs of higher educational institutions), *Vestnik vysshei shkoly*, No. 11, 1958, p. 84.

[49] Editorial, *Vestnik vysshei shkoly*, No. 5, 1956, pp. 3–4.

[50] *Ibid.*, p. 4.

[51] *Ibid.*, p. 3.

[52] Abramova and Voilenko, *op. cit.*, p. 83.

[53] "Za dal'neisheie razvitiie nauchnoi raboty . . ."

[54] This council was established by the decree of April 12, 1956.

government gave great attention to salary increases when this was necessary to encourage teachers to take second jobs in research institutes or in industry.[55]

The second problem has not yet been completely solved. Simply through reading the magazine *Vestnik vysshei shkoly* it is possible to see that there is a shortage, not only of professors, but even of persons with a candidate's degree. Even Rumiantsev himself stated that after the decree of 1956, 7 percent of the department heads had to hold more than one position in an educational institution. Rumiantsev probably minimized the figure. He prefers to remain silent about the percentages of professors with multiple positions in educational institutions. Moreover he confesses that they are only beginning to solve the problem.[56] At the present time a law permits those persons holding academic degrees to occupy more than one position,[57] contrary to the terms of the original decree in 1956. This arrangement is incompatible with the basic system of individual plans.

The individual plans for research work can be established only on condition that everybody work in only one institution at a time. Let us assume then that a number of professors and teachers can work in only one institution and that some number of the teachers holding more than one position will take part in research work. What will be the results?

The establishment of the Scientific-Technical Council may bring some improvements; it ensures a better distribution of topics and projects among scholars. The new system of the individual plan may introduce some flexibility in the use of teaching staffs. Neither the first nor the second, however, will yield a real solution of the main problem of how to make creative work compatible with administrative regulation. It is impossible to fit true creative activity into the pattern of the six-hour day and good salaries. The Ministry of Higher Education was forced to state, regarding a number of the professors conducting research work while still retaining creative freedom and initiative, "Some professors conducting very important projects did not wish to have these projects placed under the Ministry of Higher Education." [58] Rumiantsev says of this, "It is necessary to think that such tendencies will not find support within the academic world." [59] Doubtless this situation will evoke some reaction in Soviet legislation. The coming years will show which path this reaction takes.

[55] Abramova and Voilenko, *op. cit.*, p. 83.
[56] *Ibid.*, p. 83.
[57] *Ibid.*, p. 84.
[58] Rumiantsev, *op. cit.*, p. 6.
[59] *Loc. cit.*

Observations on Some Soviet Textbooks for English Language Instruction

FRANK M. SNOWDEN, JR.

In the Soviet Union a foreign language has for many years been required of all general secondary school pupils for six years and of all university students for two years. English is a widely taught foreign language, and, according to one official Soviet source, English language instruction is offered annually to 3.5 million secondary school students (grades 5–10). The image of English-speaking peoples presented in textbooks reaching such large numbers of students is obviously an important factor in determining the attitude of Soviet citizens toward the English and Americans.

Very familiar are the types of questions which American visitors to the U.S.S.R. are called upon to answer concerning the United States. These questions reveal a prominent Soviet image of the United States as a nation with widespread unemployment and depressing working conditions, a country in which educational opportunities and medical care are not within the reach of all and in which equality is denied to its Negro citizens.

Much has been written about the contribution of the Soviet press, radio, and television in creating such an image. Much less, however, has been available to the American public concerning the role of Soviet textbooks in developing the image of the United States which the Soviet Government wishes to inculcate in its students. An examination of certain Soviet texts which have come to my attention offers some illustrations of these methods.

A major purpose of this article, therefore, is to examine the image of the United States presented in twenty textbooks of English language instruction, seventeen of which were published between 1957 and 1959. The texts are also valuable, however, for the information they provide concerning both Soviet attitudes toward education and the goals of Soviet society. Hence, I include evidence on these two aspects of the texts before I turn to the subject of the Soviet textbook image of the United States.

Recent visitors to the U.S.S.R. have commented on the high respect paid to education and educational achievement. The Soviet commitment to education is emphasized throughout the texts—in selections for reading, in sentences designed for translation, and in subjects set for oral and written compositions.

The educational orientation of certain selections for reading is suggested by the following topics: Public Education in the U.S.S.R. [*12*, p. 13] [1]; Soviet Youth: Citizens of the U.S.S.R. Have the Right to Education [*1*, p. 167]; A Center of Education [*5*, p. 192]; The People's Teacher [*10*, p. 214]; At the Library [*16*, p. 227]; Education by Correspondence [*16*, p. 251]; and Books for Soviet Boys and Girls [*3*, p. 13].

Progress in the development of educational opportunities and facilities since the tsars, under whom there were widespread illiteracy [*12*, p. 13] and few

[1] In this article full titles of works cited are given in a bibliography. Italic numerals refer to the titles as listed in the bibliography.

schools [*18*, p. 221], is the subject of frequent comment—opportunities for learning not limited mainly to the rich as in capitalist countries [*12*, p. 16]; the availability of knowledge to all irrespective of age, class, and nationality [*12* p. 13]; extensive schooling by correspondence [*16*, p. 251]. Such successes in the sphere of public education, it is pointed out, have been "achieved in an incredibly short space of time thanks to the great attention devoted to it by the Communist Party and the Soviet Government" [*12*, p. 14].

Teachers are members of an honored profession. The government recognizes outstanding educators by honorary titles such as "Honored Teacher of the R.S.F.S.R." and by awards such as the Order of Lenin. The people show their respect by electing distinguished teachers as deputies to the Supreme Soviet of the U.S.S.R. A recipient of such honors was Ekaterina Vasilyevna Martyanova, the highlights of whose life are presented in "The People's Teacher." Through her father's sacrifices and her own summer work, Comrade Martyanova was able to graduate from college in St. Petersburg under the tsars. Instead of remaining in St. Petersburg to teach, she chose to work in a small village in the Urals, where she won the respect and love of children and parents. After the revolution in which she took an active part, she became principal of a Moscow school. In addition to official recognitions, Comrade Martyanova receives thousands of letters from former pupils, now distinguished in all parts of the Soviet Union, who express their gratitude for the guidance and assistance she has given them [*5*, p. 214].

"In no country of the world," one text points out, "have young people such conditions for study as in the Soviet Union" [*16*, p. 255]. "No government in the world," reads another text, "spends so much on the health and education of children as our Soviet Government" [*3*, p. 13]. Soviet youth is reminded, however, that "our government is creating even better conditions for the students' studies" [*1*, p. 168].

Soviet dedication to the education of children is the subject of the second lesson in an English text for the Eighth Form (Lesson One being entitled "Lenin in Britain"). The lesson offers two selections, the first, "Books for Soviet Boys and Girls," reading in part as follows:

> Today we have not only a special publishing house where children's books are published, but also a special printing-house where only children's books are printed. In no country are so many children's books printed as in our country, and there have never been in any country so many good writers of children's books as in our country. [*3*, p. 13]

In the United States, on the other hand, "Poison for the Minds of American Children" (the second selection) points out, the favorite magazines of children are comics which are published weekly by the millions, magazines which produce more profit than publishing houses in America have ever made before. The comics, depicting "heroes" who steal and kill and a favorite "superman" who can do anything, it is noted, make their contribution to the growing number of crimes committed by children in the United States. "Poison for the Minds of American Children" concludes, however, by observing that there are also good children's books and stories in America written by authors who want to see peace-loving, honest American children. [*3*, pp. 16–17]

Worthy of note is the emphasis which the textbooks place on the importance of study and systematic preparation. This emphasis appears in frequent exhortations to study and work hard and in similar observations offered for translation throughout the texts.

> Everywhere in the Soviet Union young and old constantly study. [*7*, pp. 373–74]

The students work hard. It is not easy both to work and to study. But our men and women are not afraid of hard work. [*16*, p. 252]

All pupils should remember that only those who are able to work systematically and know their jobs will play a part of any importance in the life of society and the state. [*15*, p. 87]

Every opportunity must be taken by the students to enrich their minds with the knowledge created by mankind. [*12*, p. 15]

I have done only half of my homework, and I shall not go skating until I have done the rest of it. [*3*, p. 109]

I cannot go to his place without having prepared my lessons first. [*8*, p. 142]

He is busy preparing for his examination. [*17*, p. 221]

They buy books. Ann and Kate read a lot and learn a lot. They like to buy books and they like to talk about books. [*16*, p. 112]

Ten years ago my friend studied at school; now she is a teacher herself. [*8*, p. 76]

Study as Lenin studied. [*2*, p. 129]

COMMENTATORS on education in the U.S.S.R. have included observations on Soviet dedication to the state, a pride and assurance about the accomplishments of the last forty years, and a sense of determination as to the future. Some indication of official preparation in these areas appears in the texts under consideration. Many exercises and sentences for translation into Russian fall into these categories:

The Mission of the U.S.S.R.

We have transformed our country. . . . Poverty and backwardness of the people have vanished. [*18*, p. 219]

It is not only gigantic factories and powerful machines that are being created in the U.S.S.R., but millions of new people are being created, whole generations of fearless, strong, healthy people inspired by a burning faith in our new world. [*8*, p. 152]

We want to overcome the difficulties nature puts before us. We shall do it; Soviet people can do anything, because they know they are doing it for themselves. [*3*, p. 28]

Soviet Efforts for and Interest in Peace

For forty years the Soviet Union has been demonstrating, giving factual proof, that it does not want war, that it stands for peace. [*7*, p. 140]

The Soviet Union has always been at the head of nations striving for peace. [*12*, p. 77]

The Soviet Union is the country where atomic energy was first used for peaceful purposes. [*12*, p. 124]

Soviet scientists have applied atomic energy for peaceful purposes. [*18*, p. 219]

The Soviet Union has no aggressive plans; it threatens no country and no people. [*15*, p. 46]

The last story in *Indian Legends*, entitled "How the Tomahawk was Buried: A Legend of Peace," concludes: "And thus peace and happiness came to the people of two Indian villages. Let us hope that in the same way peace and happiness will come to all the peoples of the world." [*10*, p. 89]

The American people, like the peoples of all the countries of the world, wants peace and is fighting for peace. Our country, the first socialist country in the world, is the leader in this great struggle. In the end, American children and all the children of the world will be saved from war and such poison as American children's comics. [*3*, pp. 16–17]

The Soviet Union is the stronghold of peace for all mankind, the great fighter and leader in the struggle for peace. [*1*, p. 125]

Some Contrasts between the U.S.S.R. and Capitalist Countries

The conditions of life in a Socialist country are altogether different from those in a capitalist country. [*15*, p. 19]

The wages of workers in capitalist countries are very low, while food and lodging are very dear. [*15*, p. 18]

The government of the U.S.A. can do little to improve the lives of the people by making food and other goods cheaper. Our Socialist Government on the other hand has at heart the interests of the whole country and the whole people. [*3*, p. 91]

The door to a full and useful life is not closed to deaf and dumb people in our country; but in capitalist countries the lives of such people are usually wasted. [*3*, p. 29]

The essential difference between education in the U.S.S.R. and that in capitalist countries is that Soviet education is public in the broadest sense of the term while education in the capitalist countries is available mainly to the rich. [*12*, p. 16]

. . . our Academy of Sciences has a special meteorite committee to study these visitors from space. . . . The huge crater of the fall [of a meteorite] was discovered by American scientists in 1891, but it has not been studied yet, because capitalist America which spends billions in arms cannot find the money for research work on this visitor from space. Scientists have not been given enough money for its study. [*17*, pp. 110, 112]

In 1937 alone the Soviet mails handled over 5720 million newspapers. Now, of course, this figure has gone up considerably. At present the number of newspapers handled by our postal system exceeds that handled by the U.S.A. [*4*, p. 117]

A good many [Soviet] students like elocution (reciting poetry, public reading). In Britain and the United States, however, this form of amateur art is not very popular. You will never find readings from Shakespeare or Byron attracting so great an audience as here. [*4*, p. 212]

The Soviet Union does not have professional sports. Money and sports do not mix. When money steps in, sports step out. The scandals which rock the sports world in the capitalist countries are unknown here. [*4*, p. 225]

The main thing about Soviet mills is that all kinds of devices intended for making labor safer are being constantly introduced. . . . Because of the hard conditions of labor in capitalist countries many accidents happen at their plants. [*12*, pp. 32, 53]

. . . The imperialist system cannot ensure the progress of science only for the good of mankind. This is quite clear from the fact that in the U.S.A. atomic energy was first used only to make bombs, while in our socialist land it is used in peaceful construction work. [*3*, p. 86]

The more people learn about the life in socialist countries, the better they understand the superiority of the socialist system. [*18*, p. 88]

The United States of America is the only country which has a greater total length of railways than we have; but the length of our railways is increasing, while in the U.S.A. it is becoming less. [*3*, p. 32]

Transport in the Soviet Union is organized on Socialist principles and we make fuller and better use of every locomotive, of every car and every kilometre of line than the capitalist countries do. The U.S.S.R. carries more tons of goods per kilometre than the U.S.A., and now holds first place in the world in this respect. The U.S.S.R. is a great railway power. [*3*, p. 58]

The work of [building new electric power plants along the Volga and of remaking the river] has already begun; it is a gigantic task, one that is possible of fulfillment only in a Socialist country. The governments of the states through which the Mississippi flows . . . could build walls where they are needed. They could plant trees on the banks to hold the soil. But the governments of these states have no money to spend on such work. [*3*, pp. 89–90]

Several of the contrasts between the U.S.S.R. and the capitalist countries just cited suggest the orientation of materials which the texts provide concerning the United States. A similar orientation appears in the biographical summaries of American authors:

Jack London was born . . . in an extremely poor family. Even during his school years he had to support himself by selling newspapers and doing other small jobs. . . . Some of the difficulties he met during the first years of his literary work are described in *Martin Eden*. . . . His best works reflect the socialist contradictions of capitalist society. [*15*, p. 35]

O. Henry . . . had very little schooling and began working very young. He tried various professions before he became a clerk in a bank in Texas. Though innocent, he was imprisoned for theft of money from the bank. [*15*, p. 56]

Theodore Dreiser was born in a poor American family. After his school years he had to support himself by doing odd jobs. . . . From the very beginning of his literary work he revealed the truth about capitalist America. He had great difficulty in getting his books published. . . . Actually he gives a truthful picture of American bourgeois society. . . . What he saw in Russia convinced him that the only way out of the social contradictions of bourgeois society is

in abolishing capitalism and building Socialism. He became an active participant in the struggle of the progressive forces in America . . . and became a member of the Communist Party of the U.S.A. in 1945. [*15*, p. 64]

. . . From the age of twenty-one [Howard Fast] has been writing, and has met with the usual difficulties that a progressive writer in America meets when he wants to publish his works. . . . [His novel] puts an end to the sentimental "Uncle Tom" attitude toward Negroes, and it shows them a fine, gifted people, fighting for their freedom. Finally, Fast gives a Marxist solution of the national problem. He shows that its roots lie in the class struggle, and that poor Whites and Negroes can unite and work together for the common good. [*15*, p. 107]

Exercises designed for translation and discussion either imply or emphasize that the conditions depicted in the selections have not been at all altered and, at the same time, point to the superiority of Soviet life in comparable areas—a contrast appearing regularly throughout the texts.

Selections from Jack London's *Martin Eden* are followed by the question, "What do you learn from this story about the attitude of American magazines to unknown writers?"—a reference to Martin Eden's difficulty in receiving a payment of five dollars due him for a story he had written. [*15*, p. 44]

Exercises following Dreiser's *Sister Carrie* include these questions: "Why is the fate of Carrie Meeber typical of the fate of any working girl in America?"; "Is it easy even for an experienced worker to find a job in the United States?"; "What do you know about unemployment there?"; "What is done in Soviet works and factories to help an inexperienced worker?" [*15*, p. 68]

Students in another exercise are asked to list the episodes described in Howard Fast's *Freedom Road* which remind one of the life of Negroes in present-day America. [*15*, p. 111]

Pointing out that the Cheyenne Indians had very little to eat because the American government did not give enough money to feed the Indians and because the agent gave more to those willing to become Christians, one text cites a Soviet contrast:

The Nanai people had been dying out for many years, and scientists of tsarist times thought they would die out completely in a few years. The coming of Soviet power, however, made a great change in their lives. Soviet doctors and teachers showed them how to live and they have become prosperous. Their numbers have been growing since the Revolution, and now there is no fear that they will die out. [*3*, p. 113]

A related exercise requests the students to show how the Soviet Government helps the Nanai people and how the American government destroyed the Indians. [*3*, p. 110]

No attempt is made in the selection of excerpts from authors, whether British or American, to offer a rounded picture of the history and life of the peoples of Great Britain or the United States. The excerpts, as well as illustrative sentences, obviously concentrate on certain aspects of a limited range of themes. The themes presented in *American "Opportunities": Stories of Progressive American Authors* [*20*]—unemployment, miserable working conditions, segregation, and loyalty requirements—are repeated with variations throughout the texts.

A reader of these texts is informed that "unemployment is a characteristic feature of capitalist society" and that "there are millions of unemployed workers in capitalist countries" [*6*, p. 128] and that "working people in capitalist countries live from day to day" [*12*, p. 77]. In the United States "already at the opening of the 19th century workers . . . made known their grievances against working from sunrise to sunset" [*8*, p. 348]. "Statistics," it is pointed out, "show that a large number of workers in America are unem-

ployed" [*6*, p. 146]. Further, "thousands and thousands of American unemployed go from plant to plant asking whether there is a job for them" [*17*, p. 68].

Olga Boiko, returning by train to the Moscow Pedagogical Institute, reads in the latest *Literary Gazette* that in the United States "this year many graduates from educational institutions, engineers, doctors, lawyers, teachers, as well as many other specialists have joined the ranks of the unemployed." The magazine *U.S. News and World Report*, according to the *Gazette*, had recently stated that the graduates had little hope of finding work in their special fields. Olga reads further that these specialists are being encouraged to secure employment as salesmen, barbers, house painters, and the like, but that because of the mass unemployment there is no assurance that college graduates will find even this type of work. A young companion in the same compartment points out how different conditions are in the Soviet Union, where a student upon graduation from the university is offered a wide choice of work all over the country. [*6*, pp. 7–8]

"Because of the hard conditions of labor in capitalist countries," the Soviet student reads, "many accidents happen at their plants" [*12*, p. 53]. An assigned reading from the *Daily Worker* carries the caption "One of Every 14 Miners Killed or Injured Last Year" [*17*, p. 183]; "The miners in the U.S.A. suffer much from occupational diseases" [*17*, p. 185]; "When a wage-earner in the U.S.A. dies or is disabled, the family loses the breadwinner and must starve" [*17*, p. 185].

"The Happiest Man on Earth," by Albert Maltz, records the difficulties of Jesse, who for two weeks had been walking from Kansas City, "through nights of rain, without sleep and almost without food" in search of employment. Jesse, idle for six years, had gone to seek assistance from his brother-in-law, who hardly recognized him because he was so thin and weak. The only help which the brother-in-law could offer was a job as a driver of a truck carrying nitroglycerine —a job which paid a dollar an hour. Upon inquiry Jesse learned that the job yielded such a high wage because the drivers never returned. Jesse gladly accepted, however, because he hoped that before he suffered the fate of the other drivers he would live long enough to send his wife some money to buy the children food and clothes. Jesse is gladdened by the prospect of living and saving even for three months. The story concludes: "The whole world became golden for him. 'I am the happiest man in the world,' he said to himself." [*1*, p. 364; *20*, pp. 9–14]

In light of the picture of American labor as depicted in the texts, it would be interesting to hear talks prepared in response to the instruction, "Prepare to speak on one of the following topics: Why is it so hard for children of poor families to get an education in the U.S.A.?; The terrible conditions of the workers in capitalist countries." [*5*, p. 281]

References to the Negro appear in twelve of the texts examined, beginning with books designed for the young student of English. A book for the fifth grade, for example, includes an illustrated story of "Black Jimmy," who lives in the South. Jimmy, his two brothers, and four sisters, whose parents work very hard for little money, live in a house with "one room and a kitchen. In the room they have only one bed, a table, three chairs and two benches. The children have no beds; they all sleep on the floor." The short selection introduces the reader to residential, educational, and recreational segregation in Southern communities [*19*, pp. 122–24]. One of the last sentences in this fifth-grade text instructs the students to supply the proper preposition in this sentence: "We like

to read books _____ Negro children" [*19*, p. 137].

The attention of the Soviet student is called to the Negro in several ways. "Negro" is given in several texts as an example of words which form the plural by adding "-es." The use of "bar" as a verb is illustrated by the sentence: "Some universities in the United States bar colored people from studying in them" [*18*, pp. 56–57]. The student is requested to select the word best suited to the context and to explain this choice in the following: "Negroes in America are deprived in practice of all _____ rights (civil, civilian)." "Nigger," as a contemptuous term, and "Jim Crow" are explained [*6*, p. 61]. Several references are made to Paul Robeson and his wife (the only American Negroes mentioned by name except the family of Doris Millard—"A Negro Girl Speaks" [*6*, pp. 65–66]: Robeson's singing before an enthusiastic audience which accords his concert a warm reception [*12*, p. 109; *5*, p. 299]; his name known to millions [*16*, p. 344]; Mrs. Robeson's report on a trip to Africa [*17*, pp. 160, 175, 185]. One sentence set for translation reads: "It is difficult for Paul Robeson, the world-famous singer, to rent halls for his concerts in America because he is a Negro" [*6*, p. 146]. One exercise calls for a translation of an account of a lynching excerpted from *Deep Are the Roots* by J. Gow and A. D'Usseau [*1*, p. 348].

Students of the texts are informed that "you can find the truth about the life of Negroes in the U.S.A. in books by progressive writers" [*1*, p. 297]. What types of stories, then, are presented concerning the Negro? *Plays for Schools* [*9*], for example, includes, together with "Little Red Riding Hood" and "The Three Bears," selections from *Uncle Tom's Cabin* and *Sandy* (after Langston Hughes), the latter illustrating segregation in education and recreation. *Stories about Negroes* [*13*], a reader in a series called "Easy English," is a compilation of five stories on difficulties which Negroes encounter in the United States—discrimination in education and recreation, unequal employment opportunities, limited careers in the arts, and threats to security of person. Although this text was published in 1949, it is apparently still used. The text is found in library collections and cited by Soviet teachers as a type of book used in introductory courses. In addition, a 1957 English grammar gives as an illustration of the present perfect tense the following: "I have read *Stories about Negroes*" [*11*, p. 35].

An example of a current selection (1958) demonstrates how stories about Negroes are presented to the Soviet student. During World War II, Balashyan was traveling by train from New Orleans to Baltimore. A group of American servicemen, upon learning that he was an Armenian, began firing questions at him, and one shouted and stared impolitely at him. The conversation was suddenly pierced by a woman's scream coming from the adjoining compartment.

In the meantime, "a pretty girl with tanned skin and glossy black curly hair" had entrained. A lieutenant had snatched the hat from her head and had shouted triumphantly, "See? Look at her kinky hair! You can't fool me! I can smell niggers from a distance. Don't tell me you don't know the laws." Other servicemen shouted, "Throw her out at the next station. These black apes are forgetting themselves these days. You see them everywhere they've no right to be. They've entirely forgotten what lynching is. It wouldn't be a bad idea to remind them." The young woman, in reply to the questions of the lieutenant, the ringleader of the group, explained that she was a teacher on her way to Baltimore to bid farewell to her husband, also a soldier, who was to leave for France shortly and that if she waited for a Jim

Crow train she might not see her husband before his departure. The blond officer laughed contemptuously and said to his companions, "Hey, fellows, the dirty nigger is trying to teach us morals."

As the soldiers threatened the conductor for having accepted her ticket, Balashyan interrupted to question how officers of the American Army could insist upon dropping the wife of an American soldier in such a lonely place at a late hour of night. Both the Armenian and the young woman were ejected by the soldiers as soon as the train stopped, and the story "Because She Was a Negro Woman" concludes: "In the pitch-black forest the heart-broken sobs of the woman rose above the rustling of the thick leaves." [*6*, pp. 47–65]

One final example will suffice to illustrate the Soviet selection of readings depicting life in the United States—the limited "opportunities" and "freedoms." Oscar Finklebottom embarrasses his father, a business man who employs 10,000 workers, by insisting upon asking about the meaning of "opportunity." Unable to answer satisfactorily the son's queries and doubts about the limited opportunities available to workers, the father attempts to silence the child whom he describes to his wife as "no child" but a "nightmare" [*20*, pp. 5–8; *6*, pp. 136–38; *12*, pp. 134–36]. A commentary on the story contrasts the Soviet meaning of "opportunity" which stresses "the idea of some chance which is to one's advantage, or which is favorable, or suits one's convenience" with the American meaning: "In the jargon of the American bourgeoisie the word *opportunity* has acquired the additional meaning of a profitable deal, a chance to take advantage of a situation in one's own interests, a chance to earn money" [*6*, p. 139]. Other American "opportunities" mean, therefore, unemployment, working conditions that endanger the lives of the workers, segregation, and restrictions upon freedom of speech and thought.

"The freedom of speech and the press that the Americans boast of," as defined by one text, "is a freedom for the capitalists" [*6*, p. 128]. An example of the "infamous McCarran Immigration Act as an instrument of political persecution" is deportation "on the charge of 'Membership in the Communist Party' after 42 years in the United States" [*18*, p. 291]. "Loyal Miss Ferch" by Alan Max describes the restrictions which the government imposed upon a clerk from Idaho who had been filing letters in the same bureau in Washington for thirty years. Margaret Ferch, whose life had not been altered since she had entered the employ of the government at the age of twenty-three, had just received a notice to see Mr. Riggs. Mr. Riggs was the chairman of the recently established Loyalty Committee. Miss Ferch knew that many men and women, when the committee was first set up, had been dismissed because they had been members of antifascist organizations or had made contributions to them. Since she was "for loyalty," she forgot about the note until she had her appointment with Mr. Riggs. The chairman of the Loyalty Committee informed Miss Ferch that her record was good but that he needed her assistance in calling to his attention any disloyalty she might notice among her fellow employees. Her conference with Mr. Riggs never crossed her mind again until two weeks later she received another summons to appear before Mr. Riggs. This time she was cautioned that "a loyal employee must not only be loyal himself or herself—he or she must also make it difficult for others to be disloyal. Loyalty is not only passive—it is active as well."

Following her second meeting with the chairman, Miss Ferch watched her associates, as Mr. Riggs had advised, in the cafeteria and elsewhere. She over-

heard little except talk concerning the latest film, the Washington heat, or baseball. One day, however, she tried to draw out Betty Gimple by saying, "All you read about in the papers is Russia." When Betty replied, "Yes," Miss Ferch said, "I wonder if Russia is as bad as she is painted." And then the conversation turned immediately to a beautiful dress which a friend was wearing. The next afternoon Miss Gimple received a summons from Mr. Riggs, and in the course of her discussion mentioned Miss Ferch's statement about Russia. At a final loyalty hearing for Miss Ferch, called one hour later, Mr. Riggs emphasized that it was not a question of whether Miss Ferch was loyal or not but "whether in these times the government can have employees of questionable views." "The next day," the story concludes, "the people in the filing department wondered what had become of Miss Ferch." [*20*, pp. 27–33; *1*, pp. 349–51; 358–60].

THE purpose of the picture of America presented in these textbooks is obvious. Since this picture provides perhaps for most Soviet students of English their first detailed and formal impression of the United States, the educational significance of the practice is equally obvious. Soviet criticism of the issue of *America* devoted to the Negro and the barrage of propaganda on the subject of unemployment in the United States at the time of the American exhibit in Moscow are, of course, part of a technique which the Soviets have often used. The dissemination of this type of information, however, has perhaps an additional meaning when it is considered in light of the unbalanced picture of the United States presented formally in Soviet schools. Officials in the U.S.S.R. apparently still feel the need of protecting the image of America first created in formal study in classrooms and, hence, of preserving respect for the schools. Easy access to information which flatly contradicts lessons taught in schools may raise doubts in inquiring minds, not only about particular issues as presented in the classroom, but also about other facets of Soviet information as well.

American visitors to the U.S.S.R. have reported that the Soviets listen with friendly interest to what Americans have to say about the America they do not know. Igor Moiseyev, the dance troupe director, according to a recent press dispatch, after his return to the Soviet Union, gave such a favorable report on the cultural life of America that he was reprimanded by the Soviet Government, and a second lecture scheduled for him was postponed indefinitely.

With the development of exchanges in the cultural field as planned by the agreement between the U.S.S.R. and the United States, more and more Soviets will become acquainted with hitherto little-known aspects of American life. To accompany these exchanges, however, with the circulation of false reports about the United States or to reprimand Soviet commentators for their observation on America, vitiates the spirit of a cultural agreement designed to develop a greater mutual acquaintance and understanding between the Soviet and American peoples. Similarly, the picture of America depicted in the textbooks which I have examined is not in keeping with what we consider the true spirit of a cultural accord. Such an observation does not imply either that there are no unsolved problems in our society or that we have achieved all our goals—it means only that the texts give a distorted picture of twentieth-century America. Whether the Soviet Minister of Culture has seen any of these texts I do not know. At any rate, in reply to a question asked by an American college student about Soviet newspaper and textbook distortions of racial discrimination and unem-

ployment in the United States, Nikolai A. Mikhailov had the following to say in a film interview televised by the National Broadcasting Company: "In the books I have personally read, I have never found anything exaggerated or anything unfriendly toward your country."

Six of the texts examined were published in 1958, the year in which the Soviet-American cultural agreement was signed; five were published in the year following the agreement. Only a short time, however, has passed since the first exchanges were initiated. Although Mr. Khrushchev, in commenting on the free dissemination of ideas, still speaks of protecting his people from the "bad food poisoned with the venom of bourgeois ideas," latest reports (October 1959) indicate that the Soviet Union is applying only selective jamming to the Voice of America. Is it too much to hope that one of the outcomes of an expanded and continuing program of exchanges may be Soviet textbooks of English depicting an America which conforms more to the facts than those which were published before the agreement?

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Technical Assistance in Higher Education

An Iranian Illustration

WILLIAM B. STORM AND RICHARD W. GABLE

IN JUNE 1959, a graduation ceremony was held by the Institute for Administrative Affairs, University of Tehran, which marked an important milestone in the development of the institute. By this ceremony the University of Tehran gave formal recognition to the accomplishments of this technical assistance project and awarded master's degrees and certificates to qualified students. A few days before this event the senate of the university had approved the bylaws of the institute, giving it official status and ensuring its permanence within the university. The university had also announced that in the months ahead it would select the Iranians who will serve as professors in public and business administration at the institute. By these actions the officials of the university have given public testimony of their high regard for the institute and the place it will continue to occupy within the university.

Five years before, the institute was created under the terms of a technical assistance contract made by the United States Government, the University of Southern California, and the Government of Iran. By this contract the University of Southern California agreed to provide a team of American professors to initiate the program in Iran and at the same time to train in Los Angeles qualified Iranian scholars to become the professors of the institute. The contract required that a group of five to eight Iranian scholars be brought to the United States each year or so for eighteen to twenty-four months of study. U.S.C. was requested to undertake this venture because of its long and successful experience in training American administrators[1] as well as its background in training Turkish and Brazilian scholars in administration.[2]

While this project is typical of current university technical assistance contracts in public and business administration, it was a novelty in 1954 and something of an experiment. Only the efforts of the University of Michigan in the Philippines predate this program in Iran.[3] Of the approximately eighty university technical assistance contracts in existence today, more than fifteen are in the field of public and business administration. The results achieved in Iran hold out the promise of lasting accomplishment which is almost without parallel among other such efforts in the field of administration.

The team of American professors has now withdrawn from Iran, and only one American will continue to work with the

[1] See Henry Reining, Jr., and Frank P. Sherwood, "Twenty-Five Years of Education for the Public Service: One University's Experience," *Public Personnel Review*, October 1955, pp. 195–202.

[2] See William B. Storm and Frank P. Sherwood, "Technical Assistance in Public Administration: The Domestic Role," *Public Administration Review*, Winter 1954, pp. 32–39; and William B. Storm and Beatrice G. Markey, *A Report on the Brazilian Program of the University of Southern California, 1952–54* (Mimeographed; Los Angeles, Calif.: The University, 1959).

[3] See John W. Lederle and Ferrel Heady, "Institute of Public Administration, University of the Philippines," *Public Administration Review*, Winter 1955, pp. 8–16.

institute during the next two years. The leadership of the institute and all instruction are in the hands of capable Iranians. This stage of transition is an appropriate time to highlight some of the more clearly identifiable accomplishments of this project of technical assistance in higher education.

Thirty Iranian scholars have been educated in the United States, in a culture foreign to them, to prepare them to teach in their own culture a subject which was virtually unknown.

The difference in culture between Iran and the United States clearly posed a problem. William Warne, United States technical assistance director in Iran, described the problem encountered when the contract was being negotiated with the University of Tehran:

> They had no words to express "public administration." We spent fully three hours with the principal members of the faculty of the University trying to devise a phrase that would express in Farsi the idea that we were trying to convey by "public administration." [4]

U.S.C.'s previous experience with cross-cultural education in public administration proved that the cultural barriers could be transcended. The explanation lies in part in the technical nature of modern administration. There is a generic hypothesis in administration which postulates that the basic elements of administration are applicable in any organization, regardless of the program being administered or the culture of which it is a part.[5] As in engineering, medicine, agriculture, and many other technical fields, administration contains certain techniques and procedures which can be applied successfully in a great variety of situations.

Therefore, in this project it would be possible to transmit to Iranian scholars studying administration in the United States a body of knowledge which would be useful and adaptable in Iran, depending on the caliber of the scholars and the nature of the education. The characteristics of the selection and training processes, described in the following paragraphs, become crucial.

The careful selection of Iranians to study in the United States was a critical stage in the project. Experience in the selection and training of foreign nationals in the United States has been summarized by a number of universities regularly participating in this type of activity.[6] The factors affecting the success of training programs, insofar as selection is concerned, include the following as most significant: intellectual ability, aptitudes, age, personality, present skill, motivation, experience, values and ideology, attitudes toward the United States, status and present degree of responsibility, and the kind of organizational sponsorship the trainee has.[7]

Experience in recruiting the trainees for Iranian faculty supports these findings. The contract called for a group of scholars to be trained in such a way that they would be able to offer graduate-level instruction in the University of Tehran shortly after their return home. They were also to be capable of successfully competing for positions on the university faculty.[8] Furthermore, the

[4] Public Management Research Institute, San Francisco, California, *Reflections on Successful Technical Assistance Abroad* (Washington: Public Administration Division, International Cooperation Administration, 1957), p. 29.

[5] A hypothesis generally attributed to Edward H. Litchfield, chancellor of the University of Pittsburgh.

[6] Simon O. Lesser and Hollis W. Peter, "Training Foreign Nationals in the United States," in Rensis Likert and Samuel P. Hayes, Jr. (eds.), *Some Applications of Behavioural Research* ([Basel]: Unesco, 1957), chap. 5.

[7] *Ibid.*, pp. 169–71.

[8] The original contract called for the training of persons already on the Faculty of Law. The dean of that faculty could not spare the re-

time requirements of the contract forced a tight schedule of study in the United States in which Iranians had to hold their own with American graduate students.

With these requirements in mind, recruitment and selection were concentrated on intellectual ability, perception of Western ways of thinking, knowledge of English, status in the Iranian society, and acceptability to the dean of the Faculty of Law. Biographical data, initial oral interviews, a four-hour written examination, and a thirty-minute oral examination were employed to screen the candidates. The group of trainees was selected from approximately four hundred applicants. Most of those selected had had previous academic experience in the United States (and had voluntarily returned to Iran). Many of them held master's or even doctor's degrees in fields related to administration. All of them were from the upper levels of Iranian society, which meant they would be able to compete in a society in which influence is an essential art. They showed characteristics of an intellectual and personal nature which further strengthened their cases.

The selection process did not necessarily require the candidates to be enthusiastic sponsors of the United States, but it did weigh understanding of American institutions, appreciation of United States problems in today's world, and sympathy for the Western position in the cold war. Candidates who appeared unfamiliar with seemingly commonplace elements of the United States political system or who were hostile, cynical, or excessively critical of things American were not selected. The purpose of the selection process was to find a group of persons of such qualifications that its members would distinguish themselves as graduate students at U.S.C. and would stand a maximum chance of being made permanent faculty members of the University of Tehran.

The selection committee operated on the hypothesis that candidates who had already had a successful experience in an American university, who understood English thoroughly, who had a positive attitude toward what they were being taught, and who had powerful sponsorship in Iran would have a better chance. The experience of five years appears to support this hypothesis.

The educational program at U.S.C. was individually tailored to the background, need, and interests of each Iranian student. Tutorial services were employed where necessary. Secretarial help was continually available. Books were purchased, not only for class use but also to build a small management library for each student. Special seminars were offered to facilitate learning in certain basic fields. And a program of supervised weekly field trips was organized to enable the Iranians to relate theory to practice in a meaningful fashion. Whenever possible they were taken to professional meetings and conferences. Regular reviews were made of the work of each man to determine the manner in which he could be better developed. No effort was spared to ensure an optimum educational experience for each person.

In effect, the School of Public Administration assumed a responsibility for planning and supervising practically the full time of each Iranian scholar from the time of his arrival in Los Angeles until his departure. The intimate relationship which professors established with each student was undoubtedly a major reason for the high academic attainments of most of the group. In addition, the close working relationships were important in developing professional attitudes, understanding of the meaning of public administration in a developing society, awareness of the

quired number of professors, however; so with a single exception the thirty trainees were recruited from outside the university.

value of a democratic society, and other qualities important to a career in a pioneer program such as that of the institute. In this way these Iranians came to realize that they had a responsibility which was far greater than teaching at the institute upon their return. They would have to become the leaders of a movement for administrative reform throughout Iran. Upon them would fall the task of supplying the intellectual leadership, stimulating the desire for improvement, and ensuring the ultimate success of such a program.

Year by year, as the Government of Iran became stabilized and economic development proceeded, it became apparent to the more perceptive of these scholars that much of what was being accomplished in their homeland depended upon good administration. Toward the end of the five years, the Iranians completing their work at U.S.C. were filled with a sense of mission, of confidence in themselves and their training, and of hope and prospect for Iran.

The Iranian scholars trained to become the permanent faculty of the institute are doing an admirable teaching job in the institute and have distinguished themselves as alumni of the School of Public Administration in a variety of ways.

In a period when the rapid increase of foreign students in American universities has become the cause for concern among university officials who fear the deterioration of standards, most of this group of students not only satisfactorily met doctoral-level standards but also have gone on to perform in their home culture in a manner which reflects credit upon them and U.S.C. Five years ago many of these persons were unemployed in Iran despite their higher, often doctoral-level, education. Many of those who did hold jobs were working at insignificant tasks. Their previous education was simply not being used, much as it was needed. Today all of them hold high-level positions in the Institute for Administrative Affairs or the Government of Iran. A recent recipient of the Doctor of Public Administration degree was offered ten important jobs in the first two months after his return to Iran, but he chose to teach at the institute.

Ten of the Iranians trained in the United States are teaching full time in the institute.[9] Of the six who have taken other jobs in government, all but one teaches part time at the institute.

The fact that half of the group that has returned to Iran is working full time at the institute is remarkable in a culture where full-time work by university faculty members is rare. Almost all the faculty at the University of Tehran, including the dean of the Faculty of Law who has been codirector of the institute since its inception, hold one or more outside jobs.

The full-time Iranian faculty members of the institute are carrying on the work begun by the American faculty advisers. The curricula which were developed and the courses which were organized are being continued and improved. The professors are carrying on an active consulting relationship with the government. A series of special conferences initiated in early 1959 are scheduled to be expanded during 1960. A committee of institute professors has been formed to advise the Parliament on legislation pertinent to administration. A large management library continues to function on the "American plan" rather than under the restrictions which prevent book use and circulation in the typical Iranian library. New teaching materials are constantly being developed to relate management

[9] Of the thirty participants, three withdrew for academic reasons and one chose to remain in the United States upon the completion of his education. Eight scholars, the final of four groups to come to the United States under the program, are near the completion of their educational program at U.S.C.

theory to Iranian conditions and needs. In fact, the Iranian professors are reviving suggestions which Americans had made early in the project but which were rejected, and they are now putting these proposals into effect. There can be no doubt that the Iranian faculty of the institute is actively and positively promoting a program of administrative improvement in Iran by means of university education and by direct contact with government.

The impact this group is having on government is aided by the number who now hold prominent positions in the Iranian public service. In this way even those who chose to work elsewhere but continue a part-time association with the institute are contributing to its over-all objective. One of this group is a member of Parliament, another is the governor general of the Agricultural Development Bank (which is administering the Shah's land reform program), and four are top-level officials in the Plan Organization, which is the agency that receives the lion's share of the oil revenue and is responsible for the economic development of the nation. Beyond the fact that being in key positions they can support the institute, their experience in these positions enhances their instruction. The director of the budget in the Plan Organization teaches budgeting; the director of personnel, personnel administration; and so forth.

Thus, this group of foreign scholars has given the faculty of the School of Public Administration every reason to be proud; in a sense, the members of this group are among the most distinguished alumni of the school. Many reasons could be suggested for this phase of accomplishment; yet no final answer is available as yet. Certainly the selection process contributed immensely both to the success of the group as scholars in the United States and to their acceptability back in Iran.

There were unusual motivations which doubtless played a part: academic achievement has high status in Iran, while academic failure is immeasurably shameful; the program offered the opportunity of a tenured position on the university faculty (to which no one had been admitted in the ten years prior to 1954) to the most successful; the scholars were carefully supported while in U.S.C., and their work was aided and followed up closely upon their return to Iran; all of them had to work hard on a tight time schedule through a period of eighteen months to two years in Los Angeles and for another two or three years in Iran; and perhaps most important of all, the work of both the institute and the public administration program of the United States Technical Assistance Mission in Iran was beginning to demonstrate in a manner clear to all observers that the man who understood administration was in possession of a tool of great value in a variety of situations. These motivations, and presumably others, contributed to the success of the scholars throughout the five-year period.

The institute has attained a place of permanence within the system of higher education in Iran.

As mentioned at the beginning, the institute has been given official status by the University of Tehran senate, degrees and certificates have been formally awarded, and the Faculty of Law, within which the institute is lodged, will proceed to grant tenure to many of the American-trained professors. The significance of these developments cannot be overemphasized.

When the project was initiated five years ago, the dean of the Faculty of Law and other University of Tehran officials had little comprehension of what was being started. While the dean and the chancellor of the university agreed to a cooperative venture in higher educa-

tion for public administration, their conception of it was quite different from that of their American advisers. The European pattern of education predominated in Iran; many of the professors had been trained in France. The university was not viewed as an agency of service to the community. Education in such a specialized and practical field as administration did not exist in Iran and was looked down on by many. Exactly what could be taught in the field of administration and management was not clear to university officials. The dean and others envisaged the institute as a small project requiring one, or at most two, American advisers. When the American advance team first arrived in Tehran, it found that the dean had set aside one room in the Faculty of Law building for its use.

Five years later the institute occupies nearly one-half of the Faculty of Law building and employs approximately seventy-five full-time and ten part-time Iranians. At one time there were thirteen American advisers assisting at the institute. The number of persons teaching at the institute, the number of courses offered, the student body, and the budget of the institute are all larger than those of the Faculty of Law itself.

At the end of the third year the dean designated a prominent law faculty professor and former cabinet minister as the Iranian head of the institute. Prior to that time an American had, in effect, been the operating director. Both the dean and the Iranian director have become vigorous sponsors of the program of the institute. In recent speeches, both of these men have spoken of the universities' responsibilities to the community, the need for specialist training in Iran, the need for special programs which bring in business and governmental executives for advanced training, and the need for in-service training in governmental establishments. These are concepts which have been unrecognized in the past. While American advisers have been constantly emphasizing these ideas and the young American-trained Iranians have supported them, the endorsement of them by the dean of the Faculty of Law and the director of the institute represents a distinct shift in attitude on their part.

There are several reasons for the growing acceptance of the program by these officials. In the first place, they have been participants in the development of the institute and have had a responsibility for the major decisions. Sometimes this participation has been forced upon them because of their understandable tendency to refrain from taking part in something that was so new and different. However, the American advisers never hesitated in keeping the dean fully informed about all developments and involving him in the program wherever possible.

Both the dean and the director were brought to the United States and to U.S.C. for extended periods. They were given an opportunity to observe the educational program the Iranian scholars were undergoing and to see how an American university serves the entire community. They were exposed to a variety of professional activities in public and business administration; they went on a number of field trips to see administration in practice; and they observed many programs designed to bring public administration training to the people who need it. There are numerous evidences that these trips have reaped rich dividends.

Perhaps most important of all to the final acceptance of the institute, the project in Iran has clearly demonstrated that many of the ideas and programs which work in Southern California will work in Iran. Special seminars, institutes, conferences, after-hours degree programs, in-service training programs, consulting relationships, speeches by faculty mem-

bers, and many additional efforts of a similar nature have been introduced by the American advisers and the Iranians trained in the United States. These efforts have been marked with a high degree of success, and they are being continued by the institute now that it is under complete Iranian direction.

The Iranians associated with the institute have at times been extremely critical of aspects of the program. A deep-seated pessimism motivates many Iranians in a way that is seldom found in Western nations. To a certain extent these attitudes have handicapped the efforts to build the program, but in other ways they have stimulated a higher degree of effort by the American staff. It is to the Iranians' credit that they have not allowed their pessimism to cause rejection of a much-needed program in Iran; and the fact that they have been critical at times has not obscured their view of successful results. There will be many adjustments made at the institute in the years ahead, but the practical nature of the Iranian people will probably lead them to keep those aspects of the current program which have worked well. Thus, practical demonstration of the feasibility of higher education in public administration in Iran has been one of the major factors in the process of convincing Iranians of the viability of the institute.

The program of the institute has had a marked effect on the University of Tehran.

It would be unreasonable to attribute all changes that have occurred within the University of Tehran to the newly formed institute. However, certain significant developments have taken place which can be, at least in part, directly related to the presence of the institute.

The administration of the university has been markedly improved during these years. The system of student record-keeping has been revised. The development of a central library has been undertaken. The position of dean of students has been introduced. The transferability of credit among the several schools of the university is being experimented with. Perhaps most important of all, an effort is being made to convert the present basis for employing faculty members from part time to full time.

Some of these changes are an outgrowth of a report with recommendations which was prepared in 1958 by a survey team of educators from the University of Southern California. At the request of the chancellor of the University of Tehran, ICA made it possible for this team to travel to Iran and conduct their study. Because of the association that had developed with U.S.C., the chancellor requested that the survey of university administration and policies also be conducted by U.S.C. It should be noted that the first dean of students of the Faculty of Law is one of the Iranians trained at U.S.C.

The American librarian on the institute staff worked closely with librarians throughout the university for the improvement of their libraries, one located in each school of the university. He was instrumental in developing the idea of a central library, and he succeeded in stopping the construction of a new library building, for a time, because it was poorly designed to meet library needs. Various others of the thirty Americans who have participated as advisers at the institute during the past five years have acted in a capacity which aided the development of the university itself.

When the Shah of Iran accepted the chancellor's proposal for a new law pertaining to faculty tenure and responsibility, the chancellor appointed a committee to advise him in the development of this law. The committee consisted of one of the authors, another American adviser, two of the Iranians

trained in the United States, and two other persons from the university. The law developed by this committee, which is now being considered by the Parliament, among other things proposes that university faculty members devote full time to their teaching and research.

Five years is a relatively short time to develop a program as extensive as has been attempted in Iran. In a land as ancient as Persia where time is counted by centuries, five years is an almost inconsequential moment. Yet, the record indicates that an impact has been made in Iran, and from the point of view of the faculty in the School of Public Administration at U.S.C. this venture was clearly worth the effort.

At times there was good reason for doubting whether the project would ever succeed. Occasionally the problems faced seemed insurmountable. In the end, patience, a sense of vision, and a determination to succeed carried the project through to its present stage of development.

The University of Southern California and the faculty of the School of Public Administration have benefited immeasurably. They have had the opportunity to become intimately familiar with the people of another culture and to work with them in the solution of their problems. They have been put to the test of attempting to adapt their teaching materials to another culture, and at the same time they have been forced to reappraise their instructional techniques at home. In the process of educating the foreign scholars in the United States they have had to weigh constantly the merits of their graduate program as it applies to all graduate students because of the detailed scrutiny that was given to the program for the Iranian scholars.

In every way the project was a total effort for the school. This was not a project which was made the responsibility of a single member of the faculty and then forgotten. Every person was intimately involved. Every member of the faculty but one served for a time in Iran during the five years. From the standpoint of the contribution U.S.C. made to the institute in Iran, this is probably the most significant factor.

The fact that much has been accomplished in five years does not ensure the long-run success of the institute. Much still remains to be done, and there are still many problems ahead for the Iranians who have assumed the responsibility for continuing the institute. However, if the past is any guide to the future, one can anticipate that the Iranians will capably deal with these obstacles and the institute will continue to make a significant contribution to the long-run development of Iran.

Workmen's Compensation for University Employees

M. M. CHAMBERS

EVERY state has a so-called workmen's compensation or industrial insurance act, designed to afford employees or their survivors a reasonable indemnity for accidental injury or death occurring in the course of their employment and as a result of its hazards.

The statutes vary greatly in many respects, one of which is the extent of coverage of various classes of employees of private and public colleges and universities. In a few states there seems to be no coverage at all; in other instances it is optional, at the election of one or both types of institutions; in many states it is compulsory, at least for state institutions. Sometimes only nonteaching employees or only manual laborers are covered, while elsewhere all members of the faculty are protected. All these variations aside, the litigated cases always afford an endless variety of circumstances.

Within the past ten years at least eight cases in the higher courts of six widely separated states form instructive examples. In half of these cases the victim of the accident received an award which was sustained by the courts.

Awards sustained

An elderly man was appointed on a Saturday by Springfield College to care for athletic equipment and lockers. He was told on that day to report at 1:00 P.M. on the following Monday to the office of the superintendent of buildings and grounds to sign withholding slips and the payroll before beginning work. A few minutes before 1:00 P.M. on Monday, while he was walking across the campus toward the superintendent's office, a galloping student pursued by others collided violently with him, and his hip was fractured, resulting in total disability. The state administrative authorities concluded he incurred the injury in the course of his employment and gave him an award of compensation. The superior court, however, ruled to the contrary and dismissed the case. This judgment was in turn reversed by the supreme judicial court of Massachusetts, and the award was confirmed.[1]

Justice Lummus was able to cite many decisions awarding compensation to employees injured while going to or from work on the employer's premises; and the principle was applicable here, he said, and not to be negated merely because the accident occurred on the first day the employee reported for work.

At the Carnegie Institute of Technology a clerk in the chemical storeroom, while at work making the annual inventory, entered the nearby office of a woman associate professor of chemistry to consult about supplies for the laboratory. Soon a campus patrolman came in with his revolver and asked the professor to "feel it and see how heavy it was." She demurred, but complied after he assured her it was not loaded and showed her the cartridges in his left hand. Not long thereafter the clerk seized the gun, pointed it at his own head, and pulled the trigger. The weapon fired, killing him instantly. Apparently the patrolman had reloaded the gun after taking it from the professor, without the clerk's knowledge.

The compensation authorities made an

[1] Warren's Case, 326 Mass. 718, 97 N.E.2d 184 (1951).

award to the clerk's widow, holding that the death was accidental and occurred in the "course of employment." The award was upheld by the superior court, and the case was remitted only for modification of the award because in the meantime the widow had remarried, which event requires by statute that a modification be made.[2]

The evidence did not prove, thought the court, that the deceased had abandoned his employment or that he sustained the fatal injury while in the commission of any unlawful act. The circumstances obviously come near, however, to indicating a neglect of his work to indulge in foolish horseplay, which has sometimes barred recovery.

A sixty-two-year-old farmer and painter who had worked during the outdoor painting season only (summer and fall) for thirty-seven years as a member of the maintenance and repair crew at Lincoln Memorial University in Tennessee was injured by falling while carrying five paint buckets from one job to another on the campus. He was awarded compensation for 50 percent loss of the use of his right leg. The university appealed to the courts and strenuously interposed the defense that it was not covered by the compensation statute. The court rejected this contention, pointing out that the statute covers employers of five or more persons and names several types of exempt employers but makes no mention of nonprofit charitable corporations such as the university. In such a case the maxim of interpretation *expressio unius est exclusio alterius* is applicable. Moreover, the act permits an employer to declare his election if he believes he is not covered; and the university had never declared any such choice.

The university also attempted to insist that the injured man's employment was only casual and sporadic, though he had regularly worked about half of each year for nearly forty years. The court took occasion to remark that maintenance and repair is an expectable and continuing function without which no enterprise can operate successfully and concluded that this was peculiarly a case of the type which caused the enactment of workmen's compensation statutes to prevent needless hardship for workmen and their families. Thus the award was affirmed.[3]

Some employees not covered

It has been held in Massachusetts that the workmen's compensation statute, in its coverage of religious, charitable, and educational institutions, is optional with the employer as to "persons other than laborers, workmen, and mechanics." Hence, an award to the chief of police of Harvard University for an injury received while quelling a student riot was reversed by the state court of last resort. As supervisor and commander of a force of some thirty armed patrolmen, including a lieutenant and three sergeants, his duties are principally administrative, and his job is not of the type for which the statute makes coverage compulsory.[4]

A New Mexico decision of 1955 seems to say the compensation act then in force had no application to any state institution. A motorcycle policeman employed at the state university was injured while about his duties; but the court denied any possibility of an award, declaring that a suit against the university is in fact a suit against the state, and neither the statutes founding the institution nor the workmen's compensation act nor any other statute grants any permission by the state to be sued in such a case. The

[2] Hall v. Carnegie Institute of Technology, 170 Pa. Super. 459, 87 A.2d 87 (1952).

[3] Smith v. Lincoln Memorial University, 304 S.W.2d 70 (Tenn. 1957).

[4] Randall's Case, 331 Mass. 383, 119 N.E.2d 189 (1954).

workmen's compensation act is "in derogation of the common law, *sui generis*," said the court, and consent to be sued cannot be derived from mere implication.[5] This is a harsh view.

In Texas there was a *special* workmen's compensation act of 1951, which is applicable exclusively to the University of Texas and expressly provides that a written waiver by an employee of his rights under it would be valid. Hence, a man seeking employment as a security officer for the university who was rejected by the medical examiner as physically disqualified and who thereupon executed a written waiver of all his rights under the compensation act and entered upon the employment, was no longer protected; and when he was killed in line of duty about a month afterward, his widow was denied any indemnity.

As though taking a leaf from the New Mexico court, the Texas judge emphasized that the source of rights under a workmen's compensation law is solely statutory, with no aid from the common law.[6] Some lawyers think this construction is somewhat in the vein of "the letter killeth."

Football player as compensable employee

A student in the College of Business Administration at the University of Denver sustained an injury to his back while in spring football practice. He was employed by the university to keep the tennis courts free of pebbles at $50 a month, from which was deducted $10 for three meals a day, which he ate at the student cafeteria. He contended that he was employed to play football and that his injury arose out of and in the course of his employment. The evidence indicated that all parties had understood that he would lose his job and his free meals if he were cut off the football squad. Accordingly the Industrial Commission awarded him compensation for the injury, and this determination was successively affirmed in the trial court and the supreme court.[7]

In the course of his opinion Justice Knouss made a declaration which put the case on a somewhat different footing from what might ordinarily be taken for granted: "The University of Denver is a private corporation. It is not in any sense a charitable institution, as that term is known to the law."

Two years later in the same state a student at the Fort Lewis Agricultural and Mechanical College, a state institution, was killed in a football game at Trinidad with the Trinidad State Junior College. The Industrial Commission made an award to his widow, which was affirmed in the trial court but reversed in the Colorado supreme court.

While resembling the Denver case in some aspects, this case was thought to be distinguishable. The student was receiving veterans benefits under the GI bill. He had an "athletic scholarship" which covered his tuition fees. He was hired by the college at seventy cents per hour to manage the student lounge and to do certain farm work, and he worked at these jobs about twenty hours per week. The college carried liability insurance to cover the hazards incurred by him as a football player. He received one free meal a day during the training period only. The supreme court decided that the evidence did not establish that he was under contract to play football or that "playing football was an incident of, or caused by, his employment by the college."[8]

[5] Eubaldo Zamora v. University of New Mexico, 60 N.M. 41, 287 P.2d 237 (1955).

[6] Matthews v. University of Texas, 295 S.W. 2d 270 (Tex. Civ. App. 1956).

[7] University of Denver v. Nemeth, 127 Colo. 385, 257 P.2d 423 (1953).

[8] State Compensation Insurance Fund v. Industrial Commission, 135 Colo. 570, 314 P.2d 288 (1957).

What is the trend?

The law tends to become more humane. Especially is this noticeable in the rapid current downgrading of the obsolescent doctrines of state immunity and charitable immunity in cases involving tortious injuries caused by the negligence of colleges or universities. This subject has been treated elsewhere in another paper.[9] A backward glance at the eight recent workmen's compensation cases will readily disclose that the protection afforded by the statutes far from covers all meritorious cases but that slight extensions of the coverage by amendment or clarification of the statutes could go far toward forestalling cases of hardship for innocent injured parties.

It is outstandingly observable that in three recent cases in three different states, university security officers or patrolmen have been denied compensatory awards. Their occupation is inherently a hazardous one. Should they be placed unequivocally under the protection of the compensation statutes? The question is for the legislators of the states. If it is to be gone into, probably a general rectification and clarification of the status of all college and university employees in relation to workmen's compensation laws should be undertaken.

[9] M. M. Chambers, "College Tort Responsibility Since 1950," THE EDUCATIONAL RECORD, April 1959, pp. 166–72.

UNDER THE STATUTES of most states, an employer is held responsible for injuries to his employees arising out of and in the course of employment, regardless of any question of contributory negligence. From the application of such statutes, educational institutions customarily are not exempt. The requirements of these statutes may be complied with by carrying workmen's compensation insurance with a licensed insurance company, or in some cases by becoming a self-insurer. In the case of self-insurance, the state requires qualification as to financial responsibility and acceptable guarantees of compliance. If an educational institution is not required by law to carry workmen's compensation insurance, it may elect to do so as the most acceptable manner in which to deal equitably with its staff members who may be injured in the course of their employment.

In general the laws prescribe the amounts of indemnity payable for disability –temporary or permanent–and for death, and provide also for full medical care, hospitalization, and weekly compensation for the period of disability, if such is involved. . . .

The state laws may also impose upon the employer some liability for occupational diseases. Whether or not legal liability exists for this hazard, the institution should consider the advisability of including this coverage in its workmen's compensation policy.—From *College and University Business Administration*, Volume II, compiled by the National Committee on the Preparation of a Manual on College and University Administration, published by the American Council on Education, May 1955.